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ABSTRACT

The Task Group advocates the development, with the guidance and support of the National Library of Canada, of a Canadian Library Network with the objectives of equalizing opportunity for access to information and making use of total Canadian library resources more cost-effective. This network would be composed of three interrelated components--a bibliographic network, a resource network, and a communications network. The bibliographic network would be based on a Canadian National Bibliographic Data Base compiled at the National Library of Canada. The resource network would be made up of the holdings of the National Library and other federal governmental libraries, designated resource libraries across the nation, and unique items held in other libraries. A communications network would consist of a delivery system for the actual transfer of items by such means as the postal service, interorganizational delivery, and information transmission systems. Costs of transmitting materials among libraries and of communications among libraries would be absorbed, alleviated, or, at the least, regionally equalized by the federal government. (Author/JD)

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CANADIAN UNION CATALOGUE TASK GROUP

FINAL REPORT

TO

THE

NATIONAL LIBRARIAN OF CANADA

1976

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

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Dr. Guy Sylvestre
National Librarian

Sir:

The Task Group on the Canadian Union Catalogue has the honour to submit to you our report, embodying recommendations for the development of a Canadian Library network, with the objectives of equalizing opportunity for access to information, and making more cost-effective use of total Canadian library resources.

B. Stuart-Stubbs

Basil Stuart-Stubbs,
Chairman,
Task Group on the Canadian Union Catalogue.

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ABSTRACT

The Canadian Union Catalogue Task Group advocates the development with the guidance and support of the National Library of Canada, of a Canadian Library Network, with the objectives of equalizing opportunity for access to information, and making more cost-effective use of total Canadian library resources. This Network would be composed of three interrelated components, a bibliographic network, a resource network, and a communications network. The bibliographic network would be based on a Canadian National Bibliographic Data Base, compiled at the National Library of Canada. This Data Base would be used to support the production and maintenance of union catalogues, union lists and cataloguing support services, at both the National Library of Canada and at provincial/regional bibliographic centres. The resource network would be made up of the holdings of the National Library and other federal governmental libraries, designated resource libraries across the nation, and unique items held in other libraries. Support for this resource network would be provided by the federal government for library collections both at the National Library and other libraries. A periodicals resource centre and a storage centre, to be operated by the National Library of Canada and the Canada Institute for Scientific and Technical Information are proposed. A communications network would consist of a delivery system for the actual transfer of items by such means as the postal service and interorganizational delivery, and information transmission systems. Costs of transmitting materials among libraries and of communications among libraries would be absorbed, alleviated or at the least regionally equalized by the federal government.

RECOMMENDATIONS

RECOMMENDATION 1. That the Government of Canada, working through its established agencies the National Library of Canada and the Canada Institute for Scientific and Technical Information, and in cooperation with the provincial and territorial governments and libraries and with any other governments, organizations and institutions responsible for maintaining libraries, assume responsibility for planning, implementing and operating a Canadian Library Network, the objectives of which would be, on behalf of all residents of the country, to equalize opportunity for access to the contents of libraries in all provinces and territories, and to make possible the cost-effective use of total Canadian library resources.

RECOMMENDATION 2. That the National Library of Canada establish and coordinate a Canadian union catalogue system, in cooperation with provincial/regional library systems.

RECOMMENDATION 3. That this system consist of a national bibliographic centre at the National Library of Canada and a number of provincial/regional bibliographic centres.

RECOMMENDATION 4. That these provincial/regional bibliographic centres, inasmuch as they are part of the Canadian union catalogue system, have the capacity to record and provide information about holdings as agreed with and arranged by the National Library.

RECOMMENDATION 5. That these provincial/regional bibliographic centres may also provide various cataloguing support services and other services as agreed and arranged within the provinces/regions concerned.

RECOMMENDATION 6. That provincial/regional centres make available to the national centre, for redistribution to other bibliographic centres and/or libraries, machine-readable records for original cataloguing done in the centres.

RECOMMENDATION 7. That the National Library of Canada attempt to rationalize and coordinate the development of union lists at the national, regional and provincial levels, develop in coordination with the Canada Institute for Scientific and Technical Information and with the provincial/regional bibliographic centres standard systems for the compilation and production of union lists, and encourage the general use of these systems by making their details freely available to the Canadian library community.

RECOMMENDATION 8. That, as a first step in the development of the proposed Library and Information Retrieval Application Centre, the National Library be provided with a computer and related hardware able

to support the development of an on-line union catalogue, of a cataloguing support service for federal government libraries, and other libraries which may elect to take advantage of such a service, and of maintaining other National Library systems already in operation; and also that the operating and programming staff required to design, implement and maintain existing and proposed computer systems be provided.

RECOMMENDATION 9. That the National Library be encouraged and enabled, through the provision of the necessary funds, to acquire appropriate computer programmes and documentation as developed by other libraries and organizations.

RECOMMENDATION 10. That the federal government, on the recommendation of the National Library of Canada, make available to individual libraries or cooperating groups of libraries, funds for the purpose of creating a Canadian library network of national and provincial/regional bibliographic centres.

RECOMMENDATION 11. That the federal government, through the Canada Council, the National Library, or some other agency capable of making direct grants to or negotiating contracts with individual libraries, reimburse net lending libraries, other than national, provincial, or government libraries, such reimbursement to be in terms of the difference in numbers between items loaned to and items borrowed from Canadian libraries (providing this difference exceeds 99 loans), multiplied by the average costs of lending an item, as determined by an annual survey of these costs at the net lending libraries.

RECOMMENDATION 12. That the National Library and the Canada Institute for Scientific and Technical Information cooperate in the development of national resources of periodical literature and of systems for the expeditious delivery of items from those resources.

RECOMMENDATION 13. That the National Library of Canada and the Canada Institute for Scientific and Technical Information explore the feasibility of establishing a national central storage library.

RECOMMENDATION 14. That the National Library of Canada work with appropriate agencies in developing a plan for the support of outstanding collections of national importance at university, public and special libraries.

RECOMMENDATION 15. That the National Library of Canada, in cooperation with appropriate agencies, arrange a series of invitational conferences to discuss the development of bibliographic and resource networks within the provinces.

RECOMMENDATION 16. That the National Library of Canada and the Secretary of State urge Post Office Canada to adopt a policy whereby libraries of all kinds are granted the free-franking privilege, for the purpose of the exchange of all bibliographic information and library materials.

RECOMMENDATION 17. That the National Library seek a means of equalizing or alleviating the unit costs of telex communications for locations on behalf of libraries across Canada.

RECOMMENDATION 18. That the National Library of Canada and the Canada Institute for Scientific and Technical Information work with the appropriate agencies in defining the computer communications requirements of a fully developed bibliographic network.

RECOMMENDATION 19. That the National Library of Canada and the Canada Institute for Scientific and Technical Information, in cooperation with the appropriate agencies, adopt in principle and move toward the implementation of a programme of cost equalization in connection with an interlibrary computer communications network.

RECOMMENDATION 20. That the National Library of Canada and the Canada Institute for Scientific and Technical Information, in cooperation with the appropriate agencies, keep abreast of technological developments in the field of facsimile transmission and put new systems to a practical test as they become available.

CHAPTER 2

UNION CATALOGUES AND LIBRARY NETWORKS

2.1. The Rationale for Union Catalogues

A good point of departure for any inquiry is to ask a basic question. Since this Task Group is concerned with the future of the Canadian Union Catalogue, that question must be: why do union catalogues exist?

Some answers are so obvious as to be beyond dispute. A union catalogue, which has been defined as "an inventory common to several libraries and containing all or some of their publications listed in one or more orders of arrangement"[1], exists primarily to locate publications and determine their existence in libraries, which function contributes to the provision of more general access through the interlibrary sharing of resources, and to the possibility, not yet that often exploited, of avoiding the unnecessary duplication of works among libraries. Secondarily, a union catalogue can be used under certain conditions to provide bibliographic information which can be of assistance to other libraries and individuals in cataloguing of their collections, and in the preparation of bibliographies. What is important to note is that implicit in this rationale for union catalogues lead the same applies to union lists: is the concept of sharing - sharing of library materials and of information about them.

2.2. Libraries and Access to Information

The concept of sharing is central also to the rationale for the individual library, which is an organization created to share its resources within a community, whether that community be, for example, a city, a company, or a college. The library is created to provide access to a commonly owned pool of materials, and to provide this access at no direct cost to the individual user, although that user might well contribute to the support of the library through the payment of taxes or fees. In western society the library is an almost unique example of an institution which is supported by community agreement and at community expense in order to acquire and to make available a form of property, property which has both a physical and an intellectual aspect. It is generally considered that the free provision of access to this intellectual and physical property is fundamental to the maintenance and development of an open, productive, creative, and democratic society and to the self-realization of its members. Were libraries not to exist, or were they limited in their availability only to those who could personally afford their cost, the majority of citizens would be severely limited in their contact with books, journals, and other media of communication. Only the wealthiest of individuals could afford the vast range of materials to be found in even small public library networks.

[illegible] should collaborate in the sharing of their collections, and that they should be able to do so through such logical instruments as union catalogues and lists. The ideal toward union catalogues and lists is rooted in the wish to acquire the basis of materials available to the persons of any individual library, and to do this by drawing upon the resources of other libraries. The union catalogue or list is also the key to the enlargement of library opportunity for the use of the library, wherever or whenever it is to any one, and the instrument for making the most effective use of the collections in all libraries.

5.3. Libraries and Networks

Union catalogues can be seen simply as files listing the holdings of participating libraries. They can also be seen as the link which ties libraries together and plays some role in the formation of a larger organization, now generally referred to as a library network. This was pointed long ago by Charles H. Gould, the historian of Public Documents, when he questioned the American Library Association in 1919 as referenced its position on the subject of libraries in the twentieth century. "The problems which now confront us are different from the earlier ones," he said. "There no longer seems to be such isolation as [illegible] there is a notion, but an [illegible] is a new notion of larger proportions. The twentieth century has the task of bringing order and order among certain [illegible] libraries. It must discover a classification not for the volumes on the shelves ... but for libraries themselves, grading them as it were, and getting them together into a complete system." Could this foresee it as natural that there should develop a network of libraries and that the continent and even the globe. The purpose of such a network would be to equalize the opportunity for access to information.

5.4. The Rationale for Library Networks

The point to be kept firmly in mind is that the purpose of a library network is [illegible] to serve the citizens of this country by affording them each an equal opportunity for access to information by the sharing of collections.

Yet, although this concept is simple enough, it is not, for a number of reasons, simple to understand. First, it is difficult to recognize and comprehend the extreme complexity and diversity of library materials, even for the librarians who work with them daily. Second, the word "information" cannot begin to convey a sense of this complexity and diversity. Unfortunately, neither official language contains a single word which clearly encompasses in its meaning all the aspects of materials to be found in library collections. "Information", a word much in vogue, suggests items of knowledge which are factual and even measurable. "Knowledge", on [illegible], is equally vague in the

[illegible]

[illegible]

[illegible]

equalize opportunity for access to the contents of libraries in all provinces and territories and to make possible the cost-effective use of total Canadian library resources.

The legislation required by the Government for the assumption of this responsibility may already exist in the National Library Act, which states that "The National Librarian may, on terms and conditions approved by the Minister, enter into agreements with libraries and library and educational organizations and institutions in and outside Canada in respect of library services."[8]

This section does not give the Government of Canada or the National Library a mandate for operating libraries directly, but only for entering into agreements with respect to services. Given the jumble of jurisdictions existing in Canada, it is only through the striking of agreements that a Canadian Library Network may be constructed. Nothing in this section of the Act indicates that transfers of funds are either possible or impossible, so it is not limiting in that regard. To achieve the necessary degree of cooperation and coordination among the federal and provincial governments will not be easy. Clearly, some administrative structure to bring together appropriate representatives of the governments will be necessary. There may already be in existence a committee of ministers or officials within which it would be logical to discuss the formation of a Canadian Library Network, or it may be necessary for the federal government to identify a group of appropriate representatives and to take the initiative in convening a meeting.

Whether the stated objective of equalizing opportunity for access to library collections can ever be attained is as doubtful as it is desirable. There will always be difficulties in providing total access where, for example, unique, rare, fragile, or extremely expensive materials are involved. However, the existing disparities for opportunity of access within Canada at the present time are so great, even in respect to the most ordinary of materials, that to state the objective in the most idealistic terms will serve as a spur to the accomplishment of some immediate practical goals, which will lead ultimately to the nearest possible realization of the larger objective.

It must be noted that this objective has also been set, and its attainment is being sought, in other countries. The government of the United States has established a National Commission on Libraries and Information Science to pursue this goal; its plans have been thoughtfully articulated in two recent landmark documents. [9,9] The rationale for this first recommendation of the Canadian Union Catalogue Task Group, and for those which follow, is consistent with international planning for library and information services, although adapted to the Canadian library environment.

I.6. Elements of a Canadian Library Network

If there is confusion about the meaning of the word "information" there is also confusion about the meaning of the word "network". What, in reality, are the components of a library network, and how are they related one to the other?

To begin with, there are the information resources, the contents of individual libraries. For network purposes, these are considered in their aggregate as a potential single resource.

Then there is the bibliographical apparatus which describes and locates the individual items in this network resource. Union catalogues and lists are the key elements in this apparatus.

For the purpose of providing access to the resource network through the bibliographical apparatus, and in order that items in the resource network should be made available to persons seeking them, there must be networks for communications and delivery.

These three major components of a library network must be interrelated in their functioning, yet they may be separately considered, and are individually discussed in the following pages.

NOTES TO CHAPTER I

1. Willemin, Silvere. Technique of union catalogues: a practical guide. In: UNESCO bulletin for libraries, 20:3, Jan.-Feb., 1966.

2. Gould, Charles Henry. Co-ordination, or method in co- operation. In: American Library Association. Bulletin, 3:123, 1909.

3. Canada. Statutes. National Library Act, 1968-69, c.47 s.8.

4. Palmour, Vernon E.;Bellassai, Marcia C.;and Roderer, Nancy K. Resource and bibliographic support for a nationwide library program. Final report for National Commission on Libraries and Information Science. Rockville, Md., Westat, Inc., 1974. 267p.

5. U.S. National Commission on Libraries and Information Science. Toward a national program for library and information services: goals for action. Washington, 1975. 106p.

CHAPTER II

THE BIBLIOGRAPHIC NETWORK

II.1 The Functions of a Bibliographic Network

Fundamental to the existence of a Canadian Library Network is a bibliographic network, comprised of interrelated files of records describing not only the holdings of individual libraries in the library network but also records for works whether or not held by any Canadian library.

This bibliographic network has several functions to perform. First, it must be capable of identifying specific items accurately, millions of such items. Second, it must be able to locate those items within thousands of libraries. Third, it must provide comprehensive descriptive bibliographical information. Fourth, it must allow for the analysis of library contents, particularly by subject. In its fullest stage of development, such a bibliographic network will be a powerful tool for gaining access to the mass of material to be found in library collections.

II.2. The Present Bibliographic Network

To some degree, this bibliographical network already exists in a number of union catalogues, union lists, cataloguing support services, and information services, maintained and provided by libraries and groups of libraries throughout Canada. At present these operations are not always linked or unified. For example, existing union catalogues and union lists are separately created and maintained, although this involves a significant amount of duplication of effort. Although it need not always be the case, there is little connection among the various kinds of operations: union catalogues are usually restricted to books, union lists to serial publications, while cataloguing support services and information services are provided from yet other files. Reliance on conventional methods of file creation, maintenance, and access are largely responsible for this situation. The application of the computer to these tasks makes possible, but does not guarantee, greater integration of bibliographical files, or at least an integrated approach to their use. The computer also makes possible the use of a single record for several purposes, by providing multiple access points and re-ordering the basic data. This is the direction in which the bibliographical network should be moved. However, it is necessary to review and understand the elements in the present bibliographical network before it is possible to see what steps may be taken in that direction.

The most important elements in the present bibliographic network from the national point of view have been created by the National

Library of Canada and the Canada Institute for Scientific and Technical Information, formerly the National Science Library, which have properly assumed responsibility for providing national union catalogues and lists.

II.3. The Canadian Union Catalogue.

Among the assignments of the Canadian Union Catalogue Task Group was to study "the nature and feasibility of essential and desirable services, which should be provided from a Union Catalogue..., and the scope and composition of the Canadian Union Catalogue." (See Appendix A) This catalogue was established in 1950 as one of the requirements of the National Library Act. For the next sixteen years, until September 1966, the National Library engaged in the filming of the card catalogues of libraries in Canada, principally those holding collections of considerable size, quality, or uniqueness. The filmed records were reproduced in card format for filing. At the same time, these libraries were requested to submit location reports for books as they were catalogued, and these records were either interfiled, or the location information was combined on an edited card record. The end result of this process was a card catalogue in which the holdings of the participating libraries were recorded.

Ultimately, as the accession rate of Canadian libraries increased during the years of what has been termed the information explosion, the Canadian Union Catalogue was flooded with location reports, and the catalogue drawers became divided into many sections, ranging from a completely edited section to an unrevised filing section. Since it was not possible to keep abreast of filing and editing records, retrieval of information from the catalogue became more difficult and time-consuming. As the catalogue grew, so did the number of reports continue to increase annually, exceeding 1,600,000 in 1973/74. The number of reports received daily is nearing 7,000.

Physically, the Canadian Union Catalogue occupies nearly 11,000 drawers in an area which is becoming more and more confined. It contains something between ten and eleven million cards, representing an estimated three and a half million titles.

Despite these problems, the staff of the National Library has succeeded in reducing the filing backlog and providing an efficient location service, one which has greatly improved in its response time in recent years. Requests for locations are received by telex, mail, telephone and in person, and in 1974/75 totalled over 155,000 for all types of materials. Currently, about 74% of such requests are met with locations in Canadian libraries, but this percentage has risen as high as 80% in some years. It is readily apparent that the Canadian Union Catalogue of Books is a keystone in the present network structure.

II.4. Other Union Catalogues in Canada

There are other union catalogues in Canada, and others being planned. Nova Scotia established a Union Catalogue in 1950. Beginning with the Regional library system and two other libraries, its membership now includes forty-five college, university, special, government, and public libraries. A supplementary catalogue records the holdings of the eleven Regional libraries individually. Libraries in Nova Scotia are encouraged as a first step to seek locations within these union catalogues. Unlocated requests are directed by the Provincial Library to the Canadian Union Catalogue.

At the Saskatchewan Provincial Library a similar catalogue was started in 1958, and it now represents the holdings of thirty seven libraries of all types except university libraries. It contains over 300,000 cards, representing an equal number of titles, and in 1974 was able to supply 47,464 locations in response to 55,317 requests. The Provincial Library is studying the possibility of introducing a computer-based cataloguing system on behalf of the province's regional and public libraries; the union catalogue would be included in such a system.

Although at present no other province is maintaining union catalogues as comprehensive as those in Nova Scotia and Saskatchewan, such catalogues have been proposed. A recent report to the Government of Alberta's Department of Culture, Youth and Recreation recommends the establishment of "a computer based, province-wide union catalogue ... to act as the provincial switching centre for information requests."[1] In British Columbia, the government through its Library Development Commission has approved a programme which provides for "a catalogue of the collections of all components of a province wide network - the academic, governmental, public and special libraries of British Columbia."[2] A First Provincial Conference on Catalogue Systems[3] recommended the establishment of a computer-based catalogue support system and union catalogue, and the Commission responded by sponsoring a catalogue support systems study, which has been completed and which recommends some practical steps that can be taken toward the implementation of such a system.[4]

There exist yet other union catalogues which represent the holdings of a number of libraries of a particular type, usually within a geographic region. For example, there are several union catalogues in card form representing the holdings of public libraries. Such catalogues are maintained for the regional library systems in Manitoba and New Brunswick and for several regions in Ontario: for the Lake Ontario Regional Library System, for the Metro Toronto Libraries (which catalogue includes also the holdings of twelve special libraries), for the Niagara Regional Library System, and for five public libraries in the Sudbury area. The Ontario Midwestern Regional Library System maintains a printed adult book index for its participating libraries.

There are in addition some specialized union catalogues, an example of which is the Canadian National Railways Union Catalogue on Microfilm. This catalogue lists the holdings of the C.N.R.'s central and regional libraries, and contains entries for monographs, serials, government publications, technical reports, microforms, and pamphlets. A microfilm supplement is issued annually and the card file on which it is based is refilmed every four years.

As a result of the Ontario New University Libraries Project, 1964-1967, a printed book catalogue of 40,000 new monograph titles was produced for Brock University Library, Guelph University Library, Trent University Library, Erindale College Library, and Scarborough College Library. The experience gained in producing this catalogue served as a basis for the further development of a computer-based catalogue support system at the University of Toronto. This system has been put to use by the Council of Ontario Universities' Ontario University Libraries Co-operative System for its monograph cataloguing project, begun 1974. It creates a union file of monographs being added by participating university libraries and provides catalogue cards from the machine readable bibliographic data base. This data base drew upon machine readable cataloguing (MARC) records supplied by national libraries, as well as those contributed by the participating libraries, which late in 1975 included libraries other than those at Ontario universities. Current participants are Brock University, Guelph University, McMaster University, the University of Toronto, the University of Western Ontario, York University, Lakehead University, Universite Laval, McGill University, Universite de Montreal, Concordia University, Bishop's University, the Bibliotheque Nationale du Quebec, Universite de Sherbrooke, Hamilton Public Library, and the Headquarters Library of the Canadian Department of External Affairs. It is a system like this one which other provinces seek to introduce, one which will provide a computer-based union catalogue, initially of monographic publications only, and which will at the same time provide support for cataloguing activities through the provision of bibliographic information and cataloguing products such as cards, book lists, and book labels. The Ontario University Libraries Cooperative System also operates projects which produce union catalogues for serials and documents, and is developing such a system for maps.

II.5. Coordination of Union Catalogues

At this point it must be asked why, if there is a Canadian Union Catalogue, there is a need for other provincial, regional, and special union catalogues?

To this question there are two answers. First, large as it is, the Canadian Union Catalogue does not list exhaustively the holdings of all libraries in the country. Thus it cannot, for example, assist a regional group of smaller public libraries in making more effective use of their respective collections. Given the size of the country and the resulting difficulties and delays in transporting library materials between points, there is a natural wish on the part of libraries to obtain what

they need from the closest possible location.

Second, at the present time the Canadian Union Catalogue is confined to supplying location information, and does not and can not, in its existing form, provide support for cataloguing procedures. To an increasing degree libraries everywhere are seeking such support in an attempt to lower unit costs of cataloguing.

The desire for additional information about locations and for cataloguing support leads libraries in the direction of computer- based systems, which promise to fulfil both requirements simultaneously.

In 1973, when the Canadian Union Catalogue Task Group considered this situation, it was apparent to the members that no amount of expansion of the Canadian Union Catalogue, whether involving the use of a computer or not, could contend with the total requirement of Canadian libraries for locations. The hardware and software needed for such a massive task were not available and could not be obtained. At the same time, it was clear that provinces and regions had taken and were taking initiatives which would lead to the filling of local requirements for both cataloguing and location services. In this situation, it was obvious that what was needed was closer coordination among those responsible for creating and maintaining union catalogues and cataloguing support services and, if possible, a unification of this activity within one framework which would make the most effective use of human and material resources. This led to four interim recommendations, repeated here.

RECOMMENDATION 2. That the National Library of Canada establish and coordinate a Canadian union catalogue system, in cooperation with provincial/regional library systems.

RECOMMENDATION 3. That this system consist of a national bibliographic centre at the National Library of Canada and a number of provincial/regional bibliographic centres.

RECOMMENDATION 4. That these provincial/regional bibliographic centres, inasmuch as they are a part of the Canadian union catalogue system, have the capacity to record and provide information about holdings as agreed with and arranged by the National Library.

RECOMMENDATION 5. That these provincial/regional bibliographic centres, may also provide various cataloguing support services and other services as agreed and arranged within the provinces/regions concerned.

These four recommendations outline in general terms the Canadian bibliographic network. Further explanation of their meaning is necessary.

II.6 National and Provincial/Regional Bibliographic Centres

Coordination among union catalogues and cataloguing support systems is essential. At the present time there is too much repetition and overlap within the existing rudimentary network, with the holdings of a particular library being recorded in more than one union catalogue. In some cases, this may be desirable, but in many instances it involves unnecessary duplication and effort in creating and handling records. And despite the national and even international adoption of cataloguing codes and machine-readable bibliographic formats, there is lack of standardization which complicates the development of unified bibliographic record systems. It is intended that the National Library of Canada should introduce uniformity and consistency within the proposed Canadian union catalogue system, through such means as the standardization of records and the dissemination of those records, and through the development and distribution of systems for the handling of those records. Thus, although records may be held in more than one location for the sake of convenience and efficiency, the effort and expense needed to create them will be minimized.

The usage "provincial/regional" in these recommendations requires clarification. No single word could be found to describe the types of bibliographic centres visualized by the Task Group. A centre might be provincially based; it might involve a number of provinces, and all types of libraries within those provinces; or it might involve a number of libraries of one type located in one or more provinces. In effect, a "provincial/regional" bibliographic centre could be any organization established for the purpose of fostering library network activities among the group of libraries, including union and cooperative cataloguing, interlibrary sharing of resources, or coordinated collections development. Only such a vague usage as "provincial/regional" could embrace the reality of existing organizations, which cut across provincial and institutional boundaries in a variety of ways.

Recommendation 5 proposes that cataloguing support services may be offered by the provincial/regional bibliographic centres. This is not to say that they will be, nor does it preclude the possibility that such support services might be offered also by the National Library of Canada.

The Task Group also gave some thought to the division of responsibility for the listing of locations, as between the National Library of Canada and the provincial/regional bibliographic centres. As visualized by the Task Group, a fully developed provincial/regional centre would provide a computer-based cataloguing service to participating libraries, and in providing that service would at the same time create a union catalogue of the collections of those libraries. However, the centre would not report all holdings information to the national union catalogue centre at the National Library of Canada, but only the holdings of those libraries which it had been decided and agreed should be listed in the Canadian Union Catalogue. In addition,

the provincial/ regional centre would identify unique items which were held by libraries other than those normally listed in the Canadian Union Catalogue and report the locations of those items, thereby ensuring that the Canadian Union Catalogue would be exhaustive in its listing of titles, which is not at present the case.

For its part, the national union catalogue centre would continue to record the holdings of major libraries in all provinces, of smaller libraries with collections of unique or special character, and of all federal government libraries. It would therefore serve as a national record of titles. It is unlikely that provincial/regional bibliographic centres will all develop at the same rate and it is possible that some areas of the country may not be covered by such a centre. Therefore, the National Library of Canada, through its national bibliographic centre and union catalogue, will continue directly to ensure adequate coverage of holdings for areas with no bibliographic centre.

The Task Group also foresees that the Canadian Union Catalogue itself would be computer-based, and that this would make possible a bibliographic network which was electronically linked. Before proceeding to describe what the results and benefits of this might be, it is necessary to consider how the Canadian Union Catalogue might be automated.

II.7. An Automated Canadian Union Catalogue

Large card files present particular difficulties in maintenance, especially when they are union files. Contributions to these are voluminous: in the case of the Canadian Union Catalogue over six thousand reports are received every day. These must be interfiled, or the information they contain must be incorporated into records already on file. Because of variations in cataloguing practice a considerable amount of interpretation and editing of records is necessary. The file itself becomes larger and larger, demanding more physical space and regular expansion. For the staff members involved, the work can be monotonous and unrewarding. The end result is a file which provides access under one descriptor only, usually the author or title. And because the file is unique, all requests for information flow to it, creating a need for staff to retrieve and supply that information. The number of items being published is increasing, the number of libraries is increasing, the number of reported items is increasing, the number of items loaned and borrowed among libraries is increasing. For the National Library this can only mean that with each passing year there will be a heavier financial and managerial burden.

The creation of a new computer-based union catalogue has been proposed by several individuals and groups as a solution to the problems associated with maintaining and servicing the existing Canadian Union Catalogue. This was recommended in 1969 by John B. MacDonald in his The Role of the Federal Government in Support of Research in Canadian Universities.[3] He visualized a new union catalogue as being built up

from machine-readable files supplied by Canadian libraries, which would receive federal subsidies to automate their internal cataloguing procedures. The National Library of Canada's own Systems Development Project in 1970 recommended the creation of an automated union catalogue, based on existing machine-readable catalogue information.* The Project Group saw the manual file as being closed off once the automated file was in operation. This outlook was shared most recently by the Services and Systems Team of the Federal Government Library Survey, which recommended that "the National Library close off the Canadian Union Catalogue, edit it under an accelerated program, publish it on microform and deposit a set in each National Library/National Science Library regional centre."

To assist it in its consideration of this question, the Canadian Union Catalogue Task Group struck a Subgroup on a National Union Catalogue System (See Appendix B), which also recommended that the National Library "close off immediately the existing union catalogue card file and begin an on-line system." In turn, the Task Group in its interim report "proposed that as soon as practicable current accessions to the Canadian Union Catalogue of Books be entered into a new on-line automated system and that the existing manual union catalogue be closed off and fully edited and then maintained to provide locations for older materials." It was further proposed that the card catalogue, when edited, should be published and disseminated, and that records for materials in non-Roman alphabets should be withdrawn during the editing process and maintained in a separate file.

The National Librarian has responded to these proposals. He agreed that a new automated union catalogue of books must be created, and stated that "Following the completion of a number of essential studies, including the Canadian Bibliographic Data Base Study now being done by Mr. R.R. Duchesne of the British Library (See Appendix C), the National Library will develop a new automated system for the Canadian Union Catalogue of Books. The new system will probably be on-line, because of the need to equal and, if possible, improve the speed of the present location service and because of the valuable man-machine interface which would be provided in matching new accessions and searching location requests containing inaccurate or incomplete information."[6] The development of this system is under way, for planned implementation in 1977-78. Aspects of this development are described in a recent issue of National Library News. [7] and need not be repeated here.

II.9. A Canadian National Bibliographic Data Base

However, it should be noted that in connection with the development of the automated union catalogue and other National Library systems, a Canadian National Bibliographic Data Base is being created. This data base will be made up of machine-readable catalogue records gathered from countries around the world. This data base is of major importance to the development of computer-based systems at the provincial/regional level as well as at the national level.

Since its inception the National Library of Canada has served as a source of bibliographic information. The publication of *Canadiana* since 1950, besides providing a record of materials produced in Canada and about Canada, provides cataloguing information about those materials. More recently, the information used in producing *Canadiana* has been available from the National Library of Canada on magnetic tape, upon which it has been recorded in the bilingual Canadian MARC format. As a further step in serving as a distributor of cataloguing information, the National Library has established as of April 1, 1976 a MARC Records Distribution Service,[9] through which Canadian libraries and provincial/regional centres may obtain MARC records produced in other countries, on a comprehensive or selective basis. The MARC Record Distribution Service could be expected and made more timely by the addition to it of records for original cataloguing done by provincial/regional centres. This would ensure a minimum of duplication of cataloguing work throughout the country.

RECOMMENDATION 6. That provincial/regional centres make available to the national centre, for redistribution to other bibliographic centres and/or libraries, machine-readable records for original cataloguing done in the centres.

Given these precedents, it seems logical that the National Library should ultimately make available off-line and/or on-line the contents of the Canadian National Bibliographic Data Base. Since it will be constructed from MARC data produced by national libraries and will be enriched by information supplied by Canadian libraries, it will obviously be the most comprehensive bibliographic data base in the country. For their part, the provincial/regional bibliographic centres will maintain data bases relating to the holdings in their libraries, and will probably add to this recently produced MARC records from Canada and abroad. However, it may not be economical or necessary for them to keep on file all the millions of entries which will be found in the National Bibliographic Data Base. Rather, the Canadian National Bibliographic Data Base should be maintained as a source for all provincial/regional bibliographic centres. Desired records could be searched on-line or off-line, retrieved, and transferred to the provincial/regional data base, where they could be put to local use as required. The National Library should also examine the cost-benefits of publishing regularly on microfiche the union catalogue portion of the Canadian National Bibliographic Data Base. The use of the microfiche for location of material by individual libraries might reduce the cost of on-line searching and the heavy workload of bibliographic centres.

11.9. The Future of the Existing Canadian Union Catalogues

The Task Group also proposed that the existing union card catalogue be closed off, edited, and published, to which the National Librarian agreed. But in the two years that have passed since that recommendation was made, discussed and accepted, a study of interlibrary loan has been conducted, the results of which contain some implications for the future of the union card catalogue.[10] It appears that half of the monographic

issues and processed by cooperative libraries have been published in the last ten years. Further, it appears that the older a book is, the less likely it is to be requested on interlibrary loan. In the new publication Research Issues , the National Library of Canada reported similar findings.[9]

From this it would follow that if an on-line catalogue is put into operation, and if no change in the pattern of interlibrary loan occurs, while a decade the on-line catalogue should be processing half the requests for locations, leaving the old catalogue to answer the other half. Again, if the pattern does not change, in twenty years the on-line catalogue will supply over three quarters of the desired locations. Depending on the rate of increase of requests for locations (and with the coming into existence of provincial/regional centres this will be difficult to estimate) the union card catalogue could be put to less and less use. Considering that most of the cataloguing information now in the union card catalogue can be found in other standard bibliographies, it may not be worthwhile to publish it for that reason. In short, it now seems to the task group that the publication of the old union card catalogue should be reconsidered, and also if the amount of time which might be spent in editing the catalogue to a level satisfactory for publication.

Other alternatives should be explored. For example, available editorial time might be better spent on preparing the retrospective volumes of Cataloging and editing location symbols in these. Although some editorial work should be continued to make the card catalogue more efficient for National Library staff to use, a high standard need not be sought. In the course of that editorial work it might be possible to withdraw all inquiries for U.S. titles from 1970 and for U.K. titles from 1950; since MARC records for these are available, they might be moved to the automated union catalogue, for such retrospective conversion would hasten the day when the on-line catalogue assumes the greater share of the location function.

The task group is not in a position to make firm recommendations in this connection. It can merely in the light of current knowledge call for a reconsideration of the earlier recommendation. The amount of editorial effort expended on this catalogue and the question of its publication must be the subject of a study of costs and benefits directed at answering this question; is it more or less expensive to carry out a rough editing of the manual file and to continue to provide a centralized location service from it, or to edit the catalogue to a standard acceptable for publication and to publish and distribute it, perhaps on microfiche, in order to be relieved of most of the cost of providing a location service?

11.10. A Union Catalogue of Materials in Microform Collections

A third aspect of the task group's earlier recommendations concerning the union card catalogue deals with the matter of access to

[illegible] [illegible] [illegible] [

II.12. Canadian Libraries and Union Lists of Serials

The record of serials holdings of Canadian libraries is dispersed and to some extent duplicated. To begin with, Canadian libraries have participated in the creation of two major union lists published in the United States. The third edition of the Union List of Serials in Libraries of the United States and Canada[16] contains entries for 156,000 individual serial titles; sixty-five Canadian libraries have reported their holdings. Two hundred and seven Canadian libraries have also contributed holdings information to New Serials Titles[17], the 1950-1970 cumulation of which lists approximately 280,000 titles, of which 6,343 are of Canadian publication. The Library of Congress is continuing to compile and publish this list.

The sixth edition of the Union List of Scientific Serials in Canadian Libraries[18] was published in 1975 in two volumes by the Canada Institute for Scientific and Technical Information, and contains holdings information for two hundred and forty-seven libraries and 37,614 titles. This union list was among the first in the world to be automated.

In 1968 the National Library of Canada published Periodicals in the Social Sciences and Humanities.[19] This list represented about 12,000 titles which were then being currently received by one hundred and seventy-nine libraries, but it did not list older titles that had ceased publication, nor did it provide holdings information. At the same time as the list was being compiled, the National Library began to develop, in card form, a union catalogue of serials. This union catalogue is made up of cards withdrawn from the union catalogue of books and of new titles and holdings as reported by participating libraries. The file from which the printed list of 1968 was prepared is being kept apart from this union catalogue. From these two sources, entries are being edited for a future union list of periodicals in the humanities and social sciences, and this constitutes a third file. Location information is supplied from all of these files upon request.

It has long been intended that future printed editions of these two Canadian union lists will be produced by the same system and with identical formats. However, there is the necessity of making the machine-readable entries for both lists compatible with MARC formats which were not available at the time the original editions were produced.

As further aids to Canadian libraries, the National Library of Canada published in 1974 its Holdings of Canadian Serials in the National Library [20], and began publication of mini union lists of serials covered by indexing services in specific subject areas. To date two mini-lists have been published:

Union List of Serials Indexed by Social Sciences Citation Index Held by Canadian Libraries.

Union List of Serials in Education and Sociology Held by Canadian Libraries

A third mini-list is in preparation to cover serials indexed by Public Affairs Information Service.

The existence of all these lists, with their impressive numbers of titles, has not deterred Canadian librarians from compiling other union lists of periodicals. Some of these are based on regional library arrangements, as in the case of the list produced by the Central Ontario Regional Library System, which includes holdings of the public libraries as well as the holdings of two colleges within the region, or in the case of the list produced by the Universite du Quebec for the Region Saguenay Lac St.-Jean, which includes the holdings of university, C.E.G.E.P., hospital, and special libraries in the district.

Other union lists are based on subject, as is Periodicals in Canadian Law Libraries[21], the first edition of which was produced in 1968 by the Canadian Association of Law Libraries. Yet others are based on both subject and region, as in the case of the union list of religious periodicals in Toronto libraries, maintained and produced by St. Michael's College Library. And others still are based on the shared interests of libraries of the same type, as in the case of the Cornflake List: a Union List of Serials in Toronto Advertising and Marketing Libraries[22] and the union list of serials held by libraries of the Sheridan Park Research Community, produced by the Ontario Research Foundation Library.

Newspapers are also serial in nature, but are usually considered separately for union listing, in order to provide a geographical rather than an alphabetical-by-title approach. Neither the Union List of Serials, nor New Serials Titles, nor Periodicals in the Social Sciences and the Humanities includes newspaper titles.

Nearly forty years ago Winifred Gregory's American Newspapers, 1821-1936[23] was published. This provided title information for newspapers of U.S. and Canadian origin only. One hundred and twenty-four Canadian libraries contributed holdings information. Despite its age, this list is still an important source of information. Plans for a new edition are being made by the Organization of American Historians, which has appointed an editor for the project.

In 1973 the Library of Congress issued two union lists: Newspapers in Microform: United States, 1948-1972[24], and Newspapers in Microform: Foreign Countries, 1948-1972[25]. The former included 34,289 titles and location information for fourteen Canadian libraries. The latter, in which newspapers of Canadian origin are listed, includes 8,620 titles and location information for one hundred and sixty-seven Canadian libraries. These two works superseded Newspapers on Microfilm, published in several editions by the Association of Research Libraries and the

Library of Congress, beginning in 1948.

In 1968 the National Library of Canada published Stephan Rush's Union List of Non-Canadian Newspapers Held by Canadian Libraries[26]. This provided holdings of 1,075 titles, in both original format and microform, for one hundred and twenty libraries. In 1968 and 1969, Canadian libraries were asked by the National Library to provide information regarding their holdings of Canadian newspapers. This has been used to create a union catalogue in card form, containing about two thousand entries. Publication is planned for 1976-77, and location information is supplied from the card file upon request.

Again, as in the case of periodicals, the existence of these union lists has not caused other libraries to defer compilation of yet other lists. Often newspapers are included in union lists of serials. They appear, for example, in the Central Ontario Regional Library System's union lists of periodicals, in the union list of serials in Ontario government libraries and in the Saskatchewan Union List of Serials[27]. A separate union list of newspaper holdings at eight prairie university libraries has been published.

Thus there is in existence an abundance of bibliographical and location information about periodicals and newspapers, much of it in the form of published union lists. Unlike books, which, once printed, remain static in form and content, serials grow, change their form, their titles, and their frequency and die, sometimes giving birth to others in the process. Therefore there is a continuing need to revise information about serials, both in union catalogues and lists and in individual library catalogues. This is one reason for the recurring publication of union lists, and for the repetition of the union listing function from time to time and place to place.

There are other reasons for the numbers of union lists, and particularly for those which are more specialized. First, it is often the case that the international and national lists are not all-inclusive in terms of titles, or in terms of libraries reporting their holdings. Second, the international and national lists, being large, may not appear in new editions frequently enough to satisfy the needs of smaller groups of libraries. Third, the more localized or specialized union lists may be based upon the reality of access or even upon special arrangements for interlibrary loan within a specific region or among a group of libraries with common interests.

Recognizing that revision to the information about serials must be carried on regularly, and assuming that union lists will continue to be compiled and issued, it is obvious that duplication of effort will continue to take place unless steps are taken to minimize it. It was with this object in mind that the Task Group brought forward an interim recommendation which it now reiterates.

RECOMMENDATION 7. That the National Library of Canada attempt to rationalize and coordinate the development of union lists at the national, regional, and provincial levels, develop in cooperation with the Canada Institute for Scientific and Technical Information and with the provincial/ regional bibliographic centres standard systems for the compilation and production of union lists, and encourage the general use of these systems by making their details freely available to the Canadian library community.

The Task Group also appointed a Subgroup on Union Lists of Serials to explore these matters in greater depth . This Subgroup has produced a report which deals with the technical aspects of creating and maintaining a machine-readable data base for periodical publications that will meet both national and international requirements. The Subgroup's detailed recommendations are endorsed by the Task Group. (See Appendix D) However, there are some aspects of the Subgroup's study which should be part of this general description of the future bibliographic network.

II.13. A Data Base for Serial Publications

As in the case of books, efforts have been made to develop a machine-readable format for bibliographic records pertaining to serials, one which can be used nationally and internationally, and progress is being made in this direction. Arrangements have been made for the assignment of International Standard Serial Numbers, the periodical counterpart for International Standard Book Numbers, as a means of identifying periodicals individually.

In the case of books, major national libraries around the world are engaged in producing MARC records for new publications as they are issued. The possibility of retrospective conversion of records for books already in print before the MARC recording programmes commenced has been studied, but given the overwhelming number of titles involved it seems unlikely that much conversion can be done. But in the case of periodicals, the production of MARC records for new titles only will never produce the data base needed to create union lists. Most periodicals to which libraries subscribe antedate the MARC conversion programmes. Retrospective conversion in the case of serials is essential.

Such retrospective conversion has been carried out already by scores of individual libraries, but regrettably in all but a few instances this was done before any agreement had been reached on a standard format, with the result that much effort has been wasted and duplicated.

As the result of a National Library contract with York University to explore possible data bases to be used for the union list of serials, the principal investigator,Richard Anable, was instrumental, along with

other concerned librarians in the United States and Canada, in bringing into existence a cooperative programme for the retrospective conversion of bibliographic information pertaining to serials, now referred to as the CONSER Project, which is now under the management of the Council on Library Resources. The Project has established a data file at the Ohio College Library Center to which participating libraries can contribute bibliographical information on-line, according to agreed-upon standards. As a participant, the National Library of Canada has assumed responsibility for verifying information about serials published in Canada, as well as providing data about Canadian serials.

At the end of the project the data base will be available through the National Library's MARC Record Distribution Service to all provincial/regional bibliographic centres, groups of libraries or individual libraries wishing to compile union lists, to use the records for cataloguing copy or for other purposes. It will also be used for the future compilation of lists at the National Library of Canada and the Canada Institute for Scientific and Technical Information, and can be so used by other libraries. In the meantime, until the data base is available, libraries converting their serial records to machine-readable form are urged to employ the fullest possible level of the Canadian MARC Communication Format: Mini-MARC, Serials.

It should be noted that once the bibliographical and holdings information about serials is in machine-readable form, it can be used in the same way as machine-readable records for books. That is, there may be no need to publish union lists if the information about periodicals can be supplied on-line. In the development of the Canadian National Bibliographic Data Base and the bibliographic network that will be based on it, this possibility should be given consideration. On the other hand, it may be more economical to create a data base for serials in Canadian libraries, revise this periodically and publish union lists on microfiche.

II.14. Newspapers and a Serials Data Base

As for newspapers, the Subgroup on Union Lists of Serials takes the position that information concerning them should be entered in the serials data base. This would still allow the production of separate union lists of newspapers, typically organized by place of publication; or newspapers could then be included in a general list of serials, organized by title.

Progress is being made toward the creation of a data base of information relating to Canadian newspapers. At the University of Victoria, work is proceeding, under the terms of a contract with the National Library of Canada, on the conversion to machine-readable form of bibliographic information about British Columbia newspapers, in CAN/MARC serials format. It is hoped that the extensive files on newspapers now being compiled at the National Library can also be converted to machine-readable form to complete a national data base.

This will be an important contribution to the national bibliography, as well as an aid to the location of files. Newspapers now represent approximately 7% of the location requests received by the National Library, thus the publication of the Canadian list should be given priority.

Given the amount of information already available about the locations of newspapers of non-Canadian origin, and the fact that newspapers are not frequently requested on interlibrary loan, the production of a new edition of Rush's Union list of Non-Canadian newspapers held by Canadian libraries does not appear to be an urgent priority.

In its Interim Report, the Task Group recommended "that, in the area of union lists, the National Library of Canada should proceed quickly with the development of a union list of periodicals in the humanities and social sciences as a first priority, and of newspapers as a second priority."[28] In the light of the developments taking place with the CONSER Project, it now seems advisable to the Task Group that the National Library postpone the publication of a union list of periodicals in the humanities and social sciences until the CONSER data base is available. In the meantime, the National Library should continue to maintain the union list of serials in card form, continue to supply location information from it, and continue to publish mini union lists in specific subject areas.

In anticipation of the completion of the CONSER data base, the National Library of Canada and the Canada Institute for Scientific and Technical Information should cooperate in the development of a machine-based union listing system, so that the information those two libraries now possess can be entered into what will be the serials component of the Canadian National Bibliographic Data Base.

II.15. Government Publications and the Bibliographic Data Base

Up to this point no mention has been made of a type of publication which libraries perceive as being in a different category: government publications. In considering government publications it is important to keep in mind that, although they are issued by governments rather than by trade, university, association, or private presses, such publications also fall into the two main categories: monographs and serials. If libraries choose to treat them differently it is for other reasons; because they are voluminous and require special management, or because it is easier to provide service from them if they are separately organized. From a bibliographical point of view, however, they are just another type of publication.

The treatment of government publications in union catalogues and lists reflects the different approaches taken by libraries in their handling of these materials. The result is confusion and inconsistency.

Libraries which catalogue monographic government publications individually report these to the union catalogues in Ottawa, Halifax and Regina. Some libraries which maintain separate document collections and use a separate record system do not generally report to these union catalogues. Thus the monographic government documents holdings of Canadian libraries are not evenly represented in existing union catalogues of books. The same is true of government publications which are serial in nature.

The National Library of Canada maintains a separate union catalogue of monographic and serial government publications. It is in two sections. In one are listed all Canadian official publications with the name of Canada or one of the provinces or territories as the main entry. In the other are listed the publications of the United Nations, UNESCO,, the United States, and Great Britain. However, all monographic government publications with a personal rather than a governmental main entry, emanating from the U.N., U.S., U.K. or Canada, plus all monographic government publications from all other countries, regardless of form of entry, are listed in the union card catalogue of books.

Serial government publications are of two types: some have distinctive titles, like most magazines, and others have generic titles, or are in series which to be located must be listed under the name of the issuing government agency. As a result serial government publications receive a variety of treatments in union lists. The National Library's Periodicals in the Social Sciences and Humanities lists, without specific holdings, the titles of government serial publications whether bearing a distinctive title or not. The latest edition of the Union List of Scientific Serials in Canadian Libraries lists holdings for those with distinctive titles only. For the rest, at least in connection with Canadian documents, the List points out that such government documents are "generally available from the library of the department concerned", and provides a list of nineteen Canadian libraries which act as full repositories of federal government publications.

Holdings of government publications also find their way into many of the regional or special union catalogues or lists. In Ontario, Quebec, Saskatchewan, Alberta and Nova Scotia, several public, government and university libraries are collaborating in the computer production of a union catalogue of government publications and technical or research reports. This system also serves as a method for organizing collections and is the basis for collection rationalization among the participants. The system, called CODOC (Cooperative Document System), produces a union master file and listings by personal or corporate authors, titles, series and serial titles, and generates a KWOC index to provide access by subject. The master file contains almost half a million records, and there are over one million descriptors on the subject file. Thus this system provides more information than can be supplied from conventional union catalogues and lists, indexing in depth even the contents of individual serial issues. Its contents are available through the Canada Institute for Scientific and Technical Information's CAN/OLE system as a data base.

In connection with the future development of machine-readable data bases, and for the specific purpose of a Canadian National Bibliographic Data Base, the Task Group believes with the Subgroup on Union Lists of Serials that no distinction should be made on the basis of an item's publisher. That is, if a serial or monograph emanates from a government press, it should receive equal bibliographic treatment in being entered into a national data base. Such an approach makes it possible to deal with government publications in a variety of ways when it comes to providing bibliographic or location information. Users of the data base can extract whatever parts of the record they require.

The Subgroup on Union Lists of Serials has recommended that information pertaining to government serials be entered into the CONSER data base on the same basis as regular serials. When this data base is available, and the National Library of Canada and the Canada Institute for Scientific and Technical Information consider the production of new editions of their union lists, they will have the option of including government publications or of placing them in separate lists; the Task Group favours the former approach.

As for monographic government publications, the Task Group believes that they should be treated as regular monographs and entered into the data base which will support the on-line union catalogue of books.

Input should be by form of publication. Output can be by type, such as government publications, if required.

It should be noted that the Resources Survey Division of the National Library of Canada is at present carrying out a general survey of government publications holdings of Canadian libraries. This survey will result in an inventory which will provide an indication of the strength and completeness of holdings of government publications at those libraries with significant collections. It will fall short of being a printed union catalogue, but will serve until better solutions to the national bibliographic control of government publications have been implemented. In the meantime, the inventory and the eventual inclusion of serial and monographic government publications in the Canadian National Bibliographic Data Base and the increasing use of the CODOC system among libraries will encourage the use of government publications and undoubtedly will increase the level of interlibrary loan traffic.

II.16. Other Materials and the Bibliographic Data Base

Other types of publications have also been the subject of union lists in Canada: music, recordings, films, microforms and maps.

In June 1967, at the founding meeting of the Association of Canadian Map Libraries, agreement was reached that a national union catalogue of maps should be compiled, and a committee was struck to determine how this should be done. The committee recommended in 1968 that such a catalogue should include all maps held in Canadian map libraries, that main entry should be by area, and that two committees be struck, one to investigate automation, the other to study descriptive cataloguing standards.

However, the original committee continued to exist, and in 1969 it further recommended that initially the union catalogue be maintained on cards at "some central map library with access to a telex system." Work commenced on this basis, with the cards being collected by the Public Archives of Canada. As work proceeded on the manual catalogue, it became clear that an authority list of place names and subjects would have to be developed and cataloguing rules standardized. At the next meeting, in 1970, it was agreed that the bibliographical information being collected about maps should be converted to machine readable form, and that the national union catalogue of maps should be automated. In 1972, the Public Archives agreed to accept responsibility for this conversion, beginning with the creation of a name authority file. It was also decided that a variant of the LC MARC II format for maps would be adopted for use by the Canadian union catalogue of maps. This format is under development at the Canadian MARC Office of the National Library of Canada in cooperation with the Public Archives. The National Library and the Public Archives are also cooperating on the development of cataloguing rules and authority files and the Public Archives has expressed interest in using the Canadiana cataloguing programs of the National Library for processing its map records.

Concurrent with these developments, beginning in 1973, Ontario Universities' Cooperative Library Systems mounted an independent project for the creation of a machine-readable catalogue of maps, initially involving the libraries of Brock University, Guelph University, McMaster University, York University, and the University of Western Ontario.

Turning to other media, some records for music and sound recordings have found their way into the Canadian Union Catalogue and a number of regional union catalogues and lists. Similarly, films have been entered in such catalogues and lists, and have been in addition the subject of separate catalogues, usually on the basis of the existence of a consortium arrangement for joint acquisition and use.

Microforms too have been included in union catalogues, as in the cases of the Nova Scotia Union Catalogue and the Metro Toronto Union

Catalogue. Also, separate lists of microforms have been compiled and published: individual lists cover the holdings of university libraries in the provinces of Quebec, Ontario, and British Columbia.

In connection with the national union catalogue of maps, the Task Group believes it essential that its development, particularly as an automated system, be coordinated with the development of the Canadian Union Catalogue of Books, and especially with the development of the Canadian National Bibliographic Data Base. It understands that such coordination is taking place, and wishes to emphasize that it must continue. Although at the present time there is little borrowing and lending of maps among libraries, the existence of a union catalogue may bring about an increase. What is perhaps more important is that an automated national union catalogue of maps will make it possible to obtain cataloguing information about maps, and thus reduce overall costs of catalogue development at the level of individual map libraries.

As to the other media, the Task Group takes the same position it took in relation to government publications: that information about microforms, music, recordings, and other items subject to cataloguing by individual libraries be entered into the Canadian National Bibliographic Data Base. Since the records in an automated system bear codes which indicate the form of the material, such items can always be identified and withdrawn for the purpose of creating separate union catalogues and lists. Although a location service for items should be available, it does not seem necessary to the Task Group that national union lists should be published for materials in any of these categories at present. Demand for such items is now known to be small. In any case, such items are often subject to special interlibrary lending provisions within regions and provinces, where it may be more appropriate to compile and publish lists.

II.17. Computer Support for the Bibliographic Network

The developments described and proposed in the preceding pages require a heavy commitment in the design of computer-based systems. The Task Group's Subgroup on a National Union Catalogue System and Roderick Duchesne in his Canadian National Bibliographic Data Base Study have already provided some general design concepts for the new catalogues, and pointed to some relationships which must exist with other national library systems and projects. However, before the operational stage can be reached, certain prerequisites must be met.

It is obvious that where there are automated library systems there must be computers, and that where there are systems of the magnitude and complexity of those which are now operating and those which are planned for the National Library, a computer committed to such projects is essential. The National Library of Canada is called upon to produce the national bibliography, *Canadiana*, and this has been automated. It is being called upon now to create a National Bibliographic Data Base, to set up an on-line union catalogue, to operate a catalogue support system

on behalf of federal libraries, and to participate in national and international developments in the control of information through computers. If the National Library of Canada is to meet not only the expectations of the Canadian and international library communities but also to meet the commitments imposed upon it by the National Library Act, then it must be provided with the necessary support, in terms of both equipment and personnel. Not to do so is to effectively cripple the National Library of Canada in the performance of its role, and to delay and even obstruct the development of a Canadian Library Network.

In 1972 the Treasury Board produced a comprehensive plan which called for the development of a number of federal government computing centres serving the needs of groups of departments with common requirements.** This plan called for the creation, under the custodianship of the National Librarian, of a Library and Information Retrieval Application Centre which would serve the National Library, the Canada Institute for Scientific and Technical Information, the Public Archives, National Museums, Information Canada, the Defence Research Board, and the Department of Agriculture. This Centre has yet to be established. It will not deal with all the computer applications of the departments involved but only with those specifically related to library applications and information retrieval.

The plan for the Centre does not envisage the centralization of computer facilities for the departments involved. Although a computer might be part of such a Centre, the Centre could serve simply as an advisory or coordinating agency. Each participating department could operate its own hardware. Under these circumstances, the Task Group believes that the National Library should be provided with a computer immediately, as a preliminary element in the development of a Library and Information Retrieval Application Centre.

In addition to the computer, it almost goes without saying that the National Library will need an adequate staff to operate the computer and to design and program systems.

RECOMMENDATION 8. That, as a first step in the development of the proposed Library and Information Retrieval Application Centre, the National Library be provided with a computer and related hardware able to support the development of an on-line union catalogue, of a cataloguing support service for federal government libraries and other libraries which may elect to take advantage of such a service, and of maintaining other National Library systems already in operation; and also that the operating and programming staff required to design, implement and maintain existing and proposed computer systems be provided.

It is not the function of the Task Group nor within its capabilities to make specific recommendations dealing with the intricacies of computer-based systems. However, the Task Group does endorse the concept of the Canadian National Bibliographic Data Base as

the central support to all National Library systems. The Task Group also notes that there are in existence several computer-based library systems which may or may not, in whole or in part, be adopted by the National Library, or adapted by it for its purposes. The National Library should continue to study these systems, and should be provided with the funds necessary to purchase documentation and programmes for those which can be put to use. Included among these programmes are not only those specifically related to library applications, but those related to the management of machine-readable files generally, the so-called data base management programmes.

RECOMMENDATION 9. That the National Library be encouraged and enabled, through the provision of the necessary funds, to acquire appropriate computer programmes and documentation as developed by other libraries and organizations.

It should be noted that early in December 1973 the National Library of Canada announced that it had decided to acquire the Dortmunder Bibliothekssystem (DOBIS), a comprehensive system package said to be capable of providing on-line facilities for catalogue searching, cataloguing, acquisition, serials control, binding, accounting, circulation, and interlibrary loan. In cooperation with the Canada Institute for Scientific and Technical Information, and guided by a working group of Canadian library systems specialists, specifications for the modification of DOBIS have been drawn up; the modifications should enable the system to operate in a multilibrary mode, using the CAN/MARC format and providing bilingual capabilities, thus generally adapting it to the needs of Canadian libraries. It is hoped and intended that the system will be widely adopted in Canada, and will thus provide the level of standardization necessary to operate an integrated national computer-based bibliographic network.

11.10. The Canadian National Bibliographic Network

Implementation of the preceding recommendations will lead to the development of a Canadian National Bibliographic Network. This network will rest upon a Canadian National Bibliographic Data Base of machine-readable records in standard formats, built up from records created in other countries, by the National Library and by other Canadian libraries. Information about all forms of publication will be included in the Data Base : books, periodicals, government publications, newspapers, music, recordings, maps, microforms and films. The Data Base will support a computerized union catalogue at the National Library, and will be available for use by provincial/regional bibliographic centres. These latter centres, although autonomous, will cooperate with the National Library with the objective of achieving a compatible network of systems for the production of union catalogues and lists and for the provision of cataloguing support services.

Because as much depends on technological developments, the eventual character of the Canadian Bibliographic Network is difficult to forecast

accurately. However, if standards are adopted and maintained, if the software employed in the national library and at the provincial/regional bibliographic centres can be kept compatible, the network will be intrinsically flexible and open to adaptation and change. For example, provincial/regional bibliographic centres could be merged or subdivided to meet new requirements. Records could be freely exchanged. With improved and less expensive systems of communication, cataloguing and location information could be entered on an on-line basis, thus making it available instantly throughout the country. The bibliographic control necessary for the provision of equal opportunity for access would then be available.

However, if the benefits of a Canadian bibliographic network are to be fully realized, it cannot be sufficiently stressed that some measure of compatibility and/or standardization of machine-readable bibliographic data is essential. There must be frequent communication and easy collaboration among libraries; computer-based systems, from data bases through several levels of software, should be made compatible. Not to achieve this would be to close off at an early stage the hope of future development, to waste time and effort, and to fail to optimize the use of library resources on behalf of the public. In order to achieve this compatibility, to avoid costly duplication of effort in systems development and to promote exchange of software and other cooperative means of speeding up the implementation of national and provincial/regional bibliographic centres, it is essential that central funding for research and development be available to the evolving network.

RECOMMENDATION 10. That the federal government, on the recommendation of the National Library of Canada, make available to individual libraries, or cooperative groups of libraries, funds for the purpose of creating a Canadian library network of national and provincial/regional bibliographic centres.

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CHAPTER III

THE RESOURCE NETWORK

III.1. The Function of a Resource Network

If the purpose of the bibliographic network is to provide information about library materials, the purpose of the resource network is to provide the materials themselves. That is, ideally a fully developed resource network should provide access to all items in all libraries on behalf of individuals everywhere.

To a degree such a resource network exists already, in a somewhat informal and unstructured way, because interlibrary lending is a well-established practice. However, the network as it exists is not capable of fully exploiting the resources of Canadian libraries, nor of exploiting them on behalf of all Canadians. The bibliographic network will make it possible to identify more items in more libraries. It remains for a resource network to make these items available more generally.

III.2. The Resources of Canadian Libraries

It is not possible to state with accuracy the extent of Canadian library resources. An estimate has been developed from available statistics by the Library Documentation Centre of the National Library of Canada (See Table A). It points to the existence of some 3,203 libraries, but it must be noted that these figures represent libraries as single institutions, and that one library as reported might consist of several branches. Moreover, this number does not include school libraries, of which there are over 7,000 and may be as many as 10,000.

Nearly a third of all Canadian libraries are located in Ontario, and about a quarter in Quebec. Of types of libraries, public and government libraries are the most numerous, although many of these are small.

Numbers of libraries are not an accurate guide to the actual distribution of resources. Table B shows, for example, that in the aggregate the public libraries of Canada hold just three million more volumes than the university libraries, but there are only about a tenth as many university libraries as there are public libraries. It also shows, not surprisingly, that there is a general correlation between numbers of library volumes and population density. The most significant departure from this correlation occurs in the case of the province of

Ontario, a difference which would be even more striking if the holdings for federal government libraries were available for inclusion in this table: Ontario is clearly Canada's book-rich province. Unfortunately, national statistics for other types of libraries are not available, and thus are not provided in Table B.

Table A

TABLE A: CANADIAN LIBRARIES: A SYNTHESIS OF STATISTICS AVAILABLE

Type of Library / Province	Provincial[1]	SPECIAL[2] Government Fed.	SPECIAL[2] Government Prov. & other	SPECIAL[2] Company & other	University[3] and other degree-granting Institution	College[3] (post-secondary teaching Institution	Regional	Public (Library Board)	School[4]	Total incl. school libies / excl. school libies
ALBERTA	-	11	30	41	3	26	2	199	780	1092 / 312
BRITISH COLUMBIA	-	17	18	42	5	15	4	65	1057	1223 / 166
MANITOBA	-	7	8	19	5	11	19	16	412	497 / 85
NEW BRUNSWICK	1	3	4	2	3	4	5	35	288	345 / 57
NEWFOUNDLAND	1	3	3	6	1	5	2	90	152	263 / 111
NORTHWEST TERRITORIES	-	2	-	-	-	-	1	-	not available	- / 3
NOVA SCOTIA	1	12	9	7	11	5	11	-	207	263 / 56
ONTARIO	-	138	52	205	27	37	14	390	3470	4333 / 863
PRINCE EDWARD ISLAND	1	1	1	-	1	1	1	-	48	54 / 6
QUEBEC	-	16	45	196	7	80	4	112	not available	- / 460
SASKATCHEWAN	1	9	12	12	3	14	7	251	661	970 / 309
YUKON	-	-	-	1	-	-	1	-	not available	- / 2
TOTAL	5	219	182	531	66	198	71	1158	7075	9505 / 2430

1. Libraries, not library service agencies.
2. Based on *Canadian library directory*, Pts.1 and 2.
3. Statistics Canada categories.
4. Statistics Canada preliminary data.

Table B

Title: Resources of Canadian Public, University and College Libraries, 1974

Source: Statistics Canada.

	B.C.	Alberta	Sask.	Manitoba	Ontario	Quebec	N.B.	N.S.	P.E.I.	Nfld.	Yukon	N.W.T.	Total
Public	3,194,393	2,371,096	1,139,100	1,017,976	13,446,103	5,055,686	394,916	765,272	137,000	500,408	64,585	41,824	27,241,907
University	2,346,395	1,721,561	953,718	1,296,696	10,356,574	5,081,128	710,356	1,186,274	129,763	310,995	-	-	24,093,460
College	256,082	236,603	33,742	36,681	774,953	3,314,446	37,595	100,556	3,540	30,415	-	-	4,324,137
TOTAL	5,796,870	4,329,260	2,126,560	2,441,353	24,577,630	13,451,260	1,142,867	2,052,102	270,303	841,818	64,585	41,824	55,659,504
Population 1971	2,184,621	1,627,874	926,242	988,247	7,703,106	6,027,764	634,557	788,960	111,641	522,104	18,388	34,807	21,568,311
Public Library Books per Capita	1.5	1.5	1.2	.5	.5	.8	.6	1.0	1.2	1.0	3.5	1.2	1.3
University Books per F.t. Student	76.6	57.4	64.5	76.6	85.7	83.5	73.3	75.9	73.9	48.8	-	-	78.4
College Books per F.t. Student	24.7	26.0	29.7	17.6	17.6	29.0	23.2	47.2	20.2	43.1	-	-	30.5
Total Books per Capita	2.7	2.7	2.3	2.5	3.2	2.0	1.8	2.6	2.4	1.6	3.5	1.2	2.6
Volumes: % of Total	10.4	7.7	3.8	4.4	44.1	21.7	2.0	3.7	.5	1.5	.1	.1	100.0
Population: % of Total	10.1	7.5	4.3	4.6	35.7	27.9	2.9	3.6	.5	2.4	.1	.2	100.0

The number of volumes held by the public, university, and college libraries, as of 1970/71, was over fifty-five million. Figures for these three types of libraries for later years are not available, nor are statistics for other types such as special libraries. It is only possible to speculate about the actual number of volumes in all Canadian libraries of all types, but it is probably in the range of sixty-five to seventy-five million. This impressive total includes only physical volumes, which are but one form of library material, although the most familiar and most numerous one. But it can serve as a rough indication of the magnitude of the resources of Canadian libraries.

III.3. Library Collections as a National Resource

Although private benefactors have had an important role to play in the development of Canadian library resources, and although many libraries are maintained by corporations, it is the case that the great majority of items to be found in library collections have been purchased with public funds, through governments at the national, provincial, and municipal levels, and are held in libraries receiving continuing support from those same public sources. Although these collections may have been purchased to serve the interests of a specific group, whether at an educational institution or within some geographical area, the case can be made for a common interest in their contents. Library resources can and should be viewed as a national resource, and one to be developed and exploited in the national interest.

III.4. The Nature of Resource Networks

As stated above, a national resource network of an informal character already exists, through the traditional practice of interlibrary loan. However, there are in Canada a number of formal resource networks, based on groupings of types of libraries within geographical regions.

For example, in most provinces public libraries are regionally organized, usually through the agency of the provincial government, and holdings are shared within these regions. Similarly, academic libraries have voluntarily formed consortia for the purposes of developing, processing, and sharing resources. Three hundred and fifty-two libraries, selected because they were active in interlibrary lending, reported that 65% of their number participated in some form of consortium for collection sharing.[1]

In the nature of things, libraries with smaller collections borrow

from libraries with larger collections, and libraries with larger collections, being more self-sufficient, are likely to borrow fewer items from other libraries than they lend. The resource network, formal or informal, therefore tends toward a hierarchical arrangement of net lending and net borrowing libraries.

III.5. The Resource Network and the Bibliographic Network

The relationship of the resource network to the bibliographic network determines to a large extent the nature of that hierarchy. Those libraries whose holdings are listed in union catalogues and lists are obviously the ones to which requests for items will be directed, and those libraries, in the case of the present national union catalogue, are mainly the larger ones. Thus the existing bibliographic network tends to encourage what might be called a shallow hierarchy, with libraries large, medium, and small all depending on the resources of the larger libraries.

The further development of the bibliographic network along the lines proposed in the previous chapter will make it possible to locate items in libraries with smaller collections, and thus should have the effect of reducing the percentage of requests sent to the larger libraries, except the National Library of Canada and the Canada Institute for Scientific and Technical Information. Given the existence of provincial/regional bibliographic centres, the resource network will evolve as a deeper hierarchy: requests for locations will be sent first to the provincial/ regional centre, and a higher proportion of items will be located within the regions. It should be noted that in the two provinces where union catalogues already exist, a higher percentage of in-province loans occurs, and libraries in those provinces, neither of which are particularly rich in library resources, are less dependent on libraries in other provinces.[2]

If items cannot be located within a region, the location request would be sent to the national union catalogue centre at the National Library of Canada, which might be able to supply a location in a library or libraries in another region.

So close is the relationship between the bibliographic network and the resource network that it is essential, in connection with both existing and future bibliographic centres, that agreement be reached between the National Library of Canada and those agencies responsible for the operation of provincial/regional bibliographic centres on the listing of library locations: that is, which libraries are to be represented in which catalogues. It is hoped that out of these agreements a logical and efficient system for the national use of library collections will emerge. These agreements will define the structure of the resource network.

III.6. Interlibrary Loan Codes

A consideration of the present nature of the exchange of materials among libraries leads to a better understanding of what a future resource network might be like.

This exchange is theoretically governed by interlibrary loan codes, documents which have been drawn up and agreed upon by librarians through their library associations and organizations. The latest national code to be adopted by the Canadian Library Association, in 1968, was a revision of one adopted shortly before by the American Library Association. In both codes the purpose of interlibrary loan is said to be "to make available research materials not owned by a given library, in the belief that the furtherance of knowledge is in the general interest." Thus under the present code there is a bias against any form of reading which is not serious enough to quality as reading for research.

Such an attitude seems too narrow to provide a basis for a Canadian library network. If, for example, a person living in a small and remote community wishes to read a work of fiction which is out of print and which can not be purchased either by him or the library serving him, there seems to be no valid reason for denying him the opportunity to read the work simply because his reading is not for research purposes.

Interlibrary loan codes are drawn up not by national libraries but by library associations. This being the case, it is hoped that the Canadian Library Association and the Association pour l'avancement des sciences et des techniques de la documentation will take note of the development of the Canadian national library network and embody a more liberal philosophy of interlibrary lending in any future revision to the national code. At the same time, insofar as the National Library of Canada or other agencies of the federal government materially support libraries in the network, they might make it a condition of that support that more general access be provided.

III.7. Interlibrary Loan in Canada

The survey Interlibrary Loan in Canada by B. Stuart Stubbs, H. Friesen and D. McInnes has been summarized, and this summary appears in the National Library News, September/October 1975. What follows is a summary of a summary.

It seems likely that by 1980, assuming no particular change in the existing informal interlibrary loan network, about a million volumes a year will be exchanged among Canadian libraries.

The number of items loaned by those libraries most active in interlibrary lending seems to be increasing by ten to twelve percent a year. It is natural, given the hierarchical situation fostered by the present bibliographic network, and given the existing distribution of resources, that the national, provincial, and university libraries should be the major suppliers of items through interlibrary loan. The libraries now accounting for the greatest amounts of borrowing are the university, public, and government libraries.

As lenders and borrowers, libraries seem to have grouped themselves into two informal networks; one includes university, college, government, special, and national libraries; the other, public, regional, and provincial libraries.

It was also learned that among provinces, eighty to ninety per cent of loans are accounted for by a library's own province plus three other provinces, and that of these three one will be an adjacent province and one will be either Quebec or Ontario. In short, interlibrary loan is already regionalized, as can be seen in the following table.

Table C

Percentage of Items Loaned by Libraries Within Their Own Provinces/Regions

B.C.	63.4
Prairies	85.6
Ontario	73.1
Quebec	71.5
Maritimes	83.5

It may come as a surprise that the Prairies and the Maritimes seem to be highly self-sufficient. This may be accounted for in two ways. First, it happens that provincial catalogues in Saskatchewan and Nova Scotia lead to a better utilization of local resources. Second, resource-rich provinces like Quebec and Ontario, with major university and government libraries, lend more materials outside their borders.

The following two tables show the subject and language content of interlibrary loan in Canada. These tables have been derived from a sample of the transactions of libraries most active in interlibrary lending.

Table D: Subject Content of Items Loaned Among Libraries in Canada

	Pure Sciences	Life Sciences	Technology	Social Sciences	Humanities	The Arts	Other
Items loaned	7.5	19.8	14.7	29.3	19.4	4.7	4.6
Items borrowed	7.8	20.5	12.8	22.6	27.1	6.3	2.9

Table E: Language of Items Loaned Among Libraries in Canada

	English	French	German	Slavonic	Asian	Spanish	Italian	Other
Items loaned	84.8	8.4	3.9	1.5	.2	.0	.6	.6
Items borrowed	78.9	8.7	5.0	3.2	.5	.2	1.3	2.2

The form of publication loaned and borrowed most frequently in the case of technology and the pure and life sciences is the periodical, usually supplied as photocopy, and in the case of the humanities, arts, and social sciences it is the monograph, usually supplied in its original format. Over forty per cent of the periodicals , government publications, and theses exchanged through interlibrary loan were published in the last five years; in the case of monographs, nearly thirty per cent were published in the same period. Only in the case of materials in the humanities does the requirement for English language publications drop below eighty per cent of the total.

III.8. Interlibrary Loan Costs as Network Costs

Interlibrary lending is a costly procedure, involving skilled personnel in the identification, location, retrieval, recording, copying, and packaging of materials. The average cost to a lending library of supplying an item is now about $8.00, and it is estimated that Canadian libraries are now spending over $5,000,000 per year in this activity. Costs are becoming a matter of great concern to the large net lending libraries, and especially to the larger university libraries, which are encountering difficulties in maintaining their collections and services, let alone developing and extending access to them. These net lending libraries are less and less inclined to accept the notion that they have an obligation to spend their parent institutions' resources on serving a wider constituency, and they tend to view interlibrary lending costs as network costs, ones which should be borne by those responsible for developing and maintaining networks. Indeed, if the effective sharing of library resources is to take place, it will only occur if costs of that sharing are not a tax on either the lending library or the borrowing library. In the interest of encouraging interlibrary lending, the Task Group makes the following recommendation.

RECOMMENDATION 11. That the federal government, through the Canada Council, the National Library, or some other agency capable of making direct grants to or negotiating contracts with individual libraries, reimburse net lending libraries, other than national, provincial, or government libraries, such reimbursement to be in terms of the difference in numbers between items loaned to and items borrowed from Canadian libraries (providing this difference exceeds 99 loans), multiplied by the average cost of lending an item, as determined by an annual survey of these costs at the net lending libraries.

III.9. Development of a Resource Network

If a Canadian national library network is to meet the total needs of the total population, the collections in the network must be sustained and developed. At the present time, the proprietors of libraries, whether they be governments, companies, or educational institutions, are responsible for developing collections to meet the needs of their respective user communities, and they meet this responsibility with varying degrees of success. It is generally recognized that there are certain minimum collection standards to be met if any group of users is to be satisfied by a given library or system of libraries. No interlibrary loan network will eliminate the need for direct access to adequate collections. At the same time, no collection can be totally self-sufficient, because with any user population there will be individuals whose needs exceed the capacities of local collections. It is to meet this need through the provision of access to supplementary resources that a resource network is required.

Although the proposed bibliographic network will lead to more effective utilization of resources within a region or province, it will always be the case that those libraries with largest collections, such as the national libraries and the major university and public libraries, will be the principal sources for items which are not common, and which may even be unique. Libraries with less comprehensive collections will continue to depend indefinitely on libraries with more comprehensive collections.

Ideally, a national resources network should be capable of meeting all the needs of all the citizens. But this ideal may never be attained, for there is simply too much information in the world. Ultimately, an international information network must emerge. However, it will be possible to meet almost all national needs, provided careful consideration is given to the coordinated development of library resources through a hierarchy of resource centres at the provincial and national level.

III.10. A National Resource for Periodical Literature

The National Library of Canada and the Canada Institute for Scientific and Technical Information fill important roles as sources of interlibrary loans. The National Library makes a practice of checking its own holdings and supplying available items whenever a location request is received. In 1974/75 the National Library has been able to supply items from its own collection for 22.7% of those requests. At the same time these two libraries act as a central source of supply for the network of federal department libraries. It is essential that these two libraries continue to be developed to meet the special needs of government and the needs of citizens across the country. These needs have been revealed by the study of interlibrary loan requests carried out by the survey of interlibrary loan, and can be used to shape collection policies at both the National Library of Canada and the Canada Institute for Scientific and Technical Information.

The results of the study point to the requirement for strong collections of periodicals, particularly in the health, applied, pure, and social sciences. Such collections, organized for efficient retrieval and delivery, would greatly improve information services to government, while at the same time providing a permanent resource for a national resource network. The benefits to the whole community would not be just in terms of access to materials, but also in terms of savings in operating and capital costs to libraries everywhere, in both the short and long terms. Assured of rapid access to extensive files, individual libraries could dispense with long back files and terminate subscriptions to many infrequently used titles.

RECOMMENDATION 12. That the National Library and the Canada Institute for Scientific and Technical Information cooperate in the development of national resources of periodical literature and of systems for the

expeditious delivery of items from those resources.

The national libraries can be seen as being at the apex of a hierarchy of libraries, organized through the bibliographic network to supply materials first at a local, provincial, or regional level, and second at a national level. However, there will be requests for materials which can not be found in Canada. Here the national libraries may have another function to perform: they could act as liaison with leading centres in other countries, such as the British Lending Division, or some future periodicals resource centre in the United States. However, it might be more efficient for libraries to deal individually with such centres, if this is permitted by those centres.

In addition, as the quantity of published materials continues to grow, there will be a requirement for rationalization of retrospective collecting, and this must also be a responsibility of the national libraries.

III.11. A National Storage Centre

Another possible function for the national libraries to perform could be to agree on or operate a national storage centre for materials withdrawn from library collections everywhere. The object would be to ensure that at least one copy of a book or journal would be kept in the resource network. Such storage libraries have been proposed already, in connection with single library systems, groups of libraries of similar types, or libraries within a region or province. It is clear that individual libraries cannot expand forever, and each of some point find a way of reducing the size of their collections. Storage libraries are one logical answer to the need to store surplus materials, namely those which are infrequently needed but which nevertheless should be preserved. At the same time they provide an opportunity to eliminate duplication of such infrequently used materials. There are many storage libraries in the United States but none, as far as is known, in Canada. A storage library is being discussed by Quebec universities, and such a library has featured in the long-range planning of British Columbia universities for many years. Public librarians in many provinces have talked of the need for last-copy repositories, but no definite action has been taken to implement these proposals.

It is conceivable that a single storage library could serve the whole country, and might be a better solution to the storage and preservation of infrequently used materials than the creation of a number of storage libraries. The contents of such a national storage library could be listed in the national union catalogue and could thus become an important element in the resource network, accessible to all libraries. At the same time, programmes for the accreditation of some materials could be set up, partly to ensure that materials which were deteriorating could be preserved, partly to recognize an the use of space within the storage library, which itself could not go on expanding forever.

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"Provincial and regional groups of universities and of libraries, while recognizing the limitations inherent in the close connection of each library with the programme of its own university, should continue their co-operative library activities and actively explore ways of extending them.

"It is recommended that each regional group of universities should develop its own plans for rationalization, and on this basis should support in principle the development of a nation-wide plan for the development of comprehensive research collections in various fields, and be prepared to participate in a study of various options open for achieving this objective.

"It is recommended that the A.U.C.C. urge granting agencies to concentrate their effort in long-term grants to large collections (existing or proposed) which may be considered as "national" collections, whether they be centrally or regionally located.

"It is recommended that the A.U.C.C. explore, along with the National Library and other agencies, ways and means of recompensing libraries which participate in providing national services."

Carrying this concept forward, the A.U.C.C. Library Committee produced in 1974 a document entitled Regional Cooperation Among University Libraries: A Plan of Action. [1] This document has been transmitted to the organization Canadian Academic Research Libraries; acting upon it, C.A.R.L. is now engaged in a self-survey which will reveal, for the first time, the level of collections to be found in each subject field at all universities, and the level to which each library aspires. From this it is proposed to draw up an agreement on a national plan for specialization.

That such a plan should be developed is of obvious importance to the success of a national resource network: it should ensure that the funds available for collections are used to increase the aggregate number of titles within the network.

The Task Group is in accord with the thinking of the A.U.C.C. Task Force on Library Rationalization: since the university libraries are a most important source of interlibrary loans for other libraries of all types and for their patrons, it can be said that they are fulfilling a national responsibility in the network context, even though their principal mandate is to serve the needs of their parent institutions. If through the rationalization plan some libraries can be identified as the sole or a major resource for collections in a particular subject area, this should be recognized and support should be provided to sustain these collections in the national interest. To build on existing strengths, particularly in the humanities and social sciences, will be far less expensive than to develop centralized collections of monographs at the national libraries.

Although no definitive survey of the collections of public libraries has been carried out yet, some do possess distinguished general and special collections. Similarly, there are some special libraries, such as that of the Glenbow Foundation, which hold unique and valuable materials. These libraries too must be regarded as national resources.

RECOMMENDATION 14. That the National Library of Canada work with the appropriate agencies in developing a plan for the support of outstanding collections of national importance at university, public and special libraries.

If some university and public libraries are identified as being of national importance and as having a special place within a national network of libraries, it is clear that these same libraries will also be of particular significance within a region or province. They will serve as area resource libraries, whether or not they are officially designated as such. In fact, the larger public and university libraries are already serving in this capacity, sometimes as a result of specific agreements, but more often in their absence.

III.13. Development of Provincial/Regional Resource Networks

It is at this level that jurisdictional problems arise. Should university libraries be open to the public? Should public libraries serve students? These problems are frequently discussed but seldom resolved, because responsibility for libraries is usually divided at the government level, there being separate municipal boards for libraries and schools, and separate provincial ministries for education and culture. If city and provincial governments are not organized in ways which would allow them to take a global view of library service, it is not surprising that librarians should have similar difficulties. In this situation, it is natural that some libraries should feel that they are serving some individuals whom it is not their legal or financial responsibility to serve, and further that if they extend their services to these individuals they should be compensated for it.

There is a need for network planning at the regional and provincial level, not only in connection with the bibliographic network, but also in connection with the resource network. Desirably, provincial governments should attempt to take a comprehensive view of library service. In some provinces, such as Alberta and British Columbia, this has been done, and wide-ranging reports have been made to government. Although it is not within the jurisdiction of the National Library of Canada to establish library networks in provinces, it could, through a series of invitational provincial conferences convened to lay out its

own plans, stimulate discussions which might lead to such network planning. Where the resource network is concerned, this should be aimed at identifying the resource library or libraries for the province, establishing the procedures for using these libraries, and arranging for the provincial support necessary to maintain collections and make them accessible.

RECOMMENDATION 15. That the National Library of Canada, in cooperation with appropriate agencies, arrange a series of invitational conferences to discuss the development of bibliographic and resource networks within the provinces.

NOTES TO CHAPTER III

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CHAPTER IV

THE COMMUNICATIONS NETWORK

IV.1. The Function of a Communications Network

The purpose of a Canadian national library network, it has been said, is to provide citizens everywhere, through libraries, with opportunities for access to information. To mobilize the bibliographic and resource networks on behalf of the individual library user, a communications network is necessary. It is the key to the functioning of the total network.

As in the case of the other two networks, this communications network already exists in a complex of postal, telephone, telecommunication, delivery, and data transmission services; a combination of these is involved now in the supplying of an item in one library to a user in another. In effect, libraries use whatever means they can among those which are available to them. But no comprehensive, integrated plan or system of communications among libraries exists on a national basis.

For purposes of considering what the communications network is and what it might become, it should be borne in mind that the library network is and will be concerned with essentially two categories of information. One of these categories is bibliographic information, the description of library materials whatever their format. The other category is the library materials themselves, the items sought by the users of libraries. These two categories of information are treated in different ways for purposes of transmission.

IV.2. Postal Services

Postal services have been and remain the mainstay of interlibrary communications. Bibliographical information, in the form of location requests and requests for items on interlibrary loan, have for the most part been carried by the mails. For purposes of cataloguing support, the mails have been used to transmit national bibliographies and printed catalogue cards. Even in the case of on-line cataloguing support systems which generate catalogue cards as an end product, the post office has most often been used to deliver them. Similarly, library materials and copies of library materials have been exchanged among libraries principally via mail services.

It is hard to be optimistic about the future of postal services.

They are labour intensive, subject to all of the difficulties which afflict large organizations, and seem bound to become more costly and less efficient and reliable. Yet at the present time, and for the near future, there is no substitute for them for most purposes. They reach every community, and are almost the only economical means of delivering library materials throughout the country.

The costs of postal service are a barrier to general access to library materials through interlibrary loan. Whether the borrowing library or the lending library assumes the costs, and whether or not these are passed on to the individual borrowing the item, someone must pay, and that payment is an impediment. Moreover, since postal rates increase with the distance between points , there is an intrinsic inequity in the communications system as it now exists: it is cheaper to exchange materials between Toronto and Ottawa than it is to exchange them between St. John's and Saskatoon, for example.

If the federal government commits itself to the principle of equalization of opportunity for access to information, one means of accomplishing this must be to lift the burden of communications costs from libraries and assume these as a library network cost. Another would be to provide for special low flat rates for the mailing of all library materials. In respect to the Post Office, this would mean the granting of the free-franking privilege to libraries, or a revision to the rate structure, for the purpose of interlibrary communications, involving both bibliographical information and library materials.

RECOMMENDATION 16. That the National Library of Canada and the Secretary of State urge Post Office Canada to adopt a policy whereby libraries of all kinds are granted the free-franking privilege, for the purpose of the exchange of all bibliographic information and library materials.

At the same time, although it is not directly related to the question of a national library network, the Secretary of State and the Postmaster General may wish to consider a similar suspension or revision of postal charges on books and journals issued by Canadian publishers and destined for either libraries or bookstores. This form of subsidy would overcome one of the handicaps to the distribution of Canadian publications in Canada. Since publishing is concentrated in Ontario and Quebec, booksellers in the east and west are not able to operate on the same terms as those in the central provinces.

IV.3. Delivery Services

As a supplement to or substitute for mail services, many libraries arrange for committed truck delivery systems within provinces and regions. In fact, of three hundred and fifty-two Canadian libraries active in interlibrary lending, 47% use such delivery services.[1] This usually takes the form of a delivery vehicle operated by a government agency or library consortium, although commercial delivery services are employed in some cases. Such delivery services are used in a given situation either because they are more efficient or less costly than the mails, or both. The National Library of Canada has no role to play in connection with this method of communication, since it must rest on local initiative, arrangements, and funding.

IV.4. Telecommunications

In the past decade telex has become increasingly common as a means of communication among Canadian libraries, particularly in connection with obtaining location information and transmitting interlibrary loan requests. Roughly 40% of libraries active in interlibrary lending use telex regularly for these purposes.[2] About three-quarters of university libraries, half of the public and regional libraries, and a third of the government libraries make use of telex. Protocols for its use for interlibrary loan have been developed by the Canadian Library Association and these have been generally accepted.

The obvious advantages of telex are speed and reliability. But as with mail service, distance affects cost, so that the farther away a library is from the union catalogue in the National Library of Canada, the more expensive it is to obtain location information.

Telephone too can be used to transmit bibliographical information, but anyone who has used this medium to relay such messages knows how cumbersome and expensive it can be. It is not advocated for interlibrary communications, except in unusual circumstances, as for urgent messages when no telex is available.

As long as manual union catalogues exist, telex will be of use, but it will ultimately be replaced by the computer terminal once on-line union catalogues and catalogue support systems are generally operative. In connection with the gradual development of the resource network, and to foster and expedite interlibrary lending, the present informal and limited telex network should be systematically developed into an interim national library telex network. Obviously the National Library cannot be expected to bear the whole cost of such a network, desirable as that might be. However, it could work toward the equalization of opportunity for access to the information it possesses uniquely in the union

catalogue, through equalizing or alleviating these costs to individual libraries.

RECOMMENDATION 17. That the National Library seek a means of equalizing or alleviating the unit costs of telex communications for locations on behalf of libraries across Canada.

IV.5. Computer Communications

Ultimately libraries will be connected by a computer communications network. The technology of computer-to-computer and terminal-to-computer communications is changing quickly. As a matter of record, Canada is in the forefront of this technology in terms of its practical application. At the present time there are in Canada two land-based broad-band carriers dealing with the transmission of machine-readable information, and these extend throughout the country. One of these, Dataroute, is operated as a service of the Transcanada Telephone System, in which the major telephone companies in Canada participate. The other is operated by the Canadian National and Canadian Pacific Telecommunication Companies. Both of these offer a variety of services and utilize a technique known as multiplexing to lower costs of transmission. The trend is toward increasingly lower communication costs, in contrast to the expectations where the Post Office is concerned. Further, extensions to digital communications through packet-switching techniques and new technologies employing microwave and fibre optics promise still lower costs once they are operational and in wide use. Supplementing these land-based systems will be satellite communications, for use between continents and between widely separated parts of Canada; this is another area in which Canada is in a position of leadership.[3], [4].

The computer communications services which are now available can be used to support a bibliographic network of the type described in Chapter II. However, it would be unwise to assume that future systems will be able to satisfy the requirements of a bibliographic network, and simply to take the position that libraries will continue to adapt to whatever systems become available. Further, it would be unwise to design a bibliographic network out of context with other potential computer communications systems. For these reasons, planning by the National Library of Canada, the Canada Institute for Scientific and Technical Information, and the Canadian library community generally should be carried on in full cooperation with the federal Department of Communications and parallel departments in the provincial governments.

RECOMMENDATION 18. That the National Library of Canada and the Canada Institute for Scientific and Technical Information work with the appropriate agencies in defining the computer communications requirements of a fully developed bibliographic network.

As in the case of mail and telex services, cost differentials create disparities among regions. This is true not only of the future on-line bibliographic network, but also of present on-line information retrieval systems, such as those made available by the Canada Institute for Scientific and Technical Information. Again, since equality of access is the objective, the equalization or elimination of the costs of communications among libraries must be a feature of government policy.

RECOMMENDATION 19. That the National Library of Canada and the Canada Institute for Scientific and Technical Information, in cooperation with the appropriate agencies, adopt in principle and move toward the implementation of a programme of cost equalization in connection with an interlibrary computer communications network.

Initially the computer communications network will be able to deal only with digital information, and will thus be used only for the transmission of bibliographical data, in connection with locations, cataloguing support systems, and information retrieval systems. For some time, library materials themselves will continue to be transmitted by mail and by delivery vehicles. This too may change, but probably never completely. There now exist facsimile transmission systems, and those which are commercially available have been tested by libraries in recent years. In every known case, they have proven to be too expensive and imperfect in their results. However, the future holds out the promise of better and more economical systems. Methods for the transmission of entire page-images will be perfected and will, like associated computer technologies, become less and less expensive to use.[5]

RECOMMENDATION 20. That the National Library of Canada and the Canada Institute for Scientific and Technical Information, in cooperation with the appropriate agencies, keep abreast of technological developments in the field of facsimile transmission and put new systems to a practical test as they become available.

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APPENDIX A

CANADIAN UNION CATALOGUE TASK GROUP

Terms of Reference, Membership and Activities

TERMS OF REFERENCE

General

To study and make recommendations on the nature, scope, maintenance and use of the Canadian Union Catalogue, which would form the bibliographic basis of a national library network, with international interfaces.

Specific areas of study

1. The nature and feasibility of essential and desirable services which should be provided from a Union Catalogue.

Possible services from a national bibliographic data bank: location service for interlibrary loans; cataloguing support service; bibliographic reference service, including subject searches; tool for rationalization of Canadian library acquisitions; centralized library circulation records, etc.

Implications of providing various types and levels of service: depth of bibliographic detail required; multiple access points including subject access; methods of subject access; bilingual access and products; relationship to cost; feasibility of data collection; influence of available technology.

2. The scope and composition of the Canadian Union Catalogue

Forms of library materials to be included in the catalogue: books, serials, maps, audiovisual materials, government documents, materials for the blind, etc; division of the catalogue into parts by forms of material.

Sources of records to be included in the catalogue: accessions from Canadian libraries; choice of libraries to be included; selective reporting by categories or subject of material; MARC tapes from other countries; cooperative cataloguing records;

records containing a Canadian location only or all available bibliographic records in machine-readable form.

Relationship of current and retrospective records, various options: e.g. preservation of full bibliographic details for all retrospective records; reduction of retrospective records of a certain age to a lesser degree of detail suitable for a location service only; elimination of non-current records (received from national tape services) without a Canadian location etc.

3. Cooperative library network development and the Canadian Union Catalogue

Centralization versus decentralization of a bibliographic network; relationship with or need for national provincial, regional and local catalogues; avoiding unnecessary cost and duplication by cooperative agreements for the development of a Canadian bibliographic network; jurisdictional problems.

Funding for a Canadian Union Catalogue: charging for services, beyond basic location services; commitment for use of services provided; contributions of participating libraries in cooperative cataloguing, file conversion, compliance with standards, etc.

4. Methodology for achieving a Canadian Union Catalogue in machine-readable form

Methods of creating a machine-readable catalogue: various options such as beginning with current records only; tackling both current and retrospective records simultaneously, etc.

Conversion of existing retrospective records: publication in micro or print form of existing catalogue versus conversion to machine-readable form; funding for selective cooperative conversion of major and specialized library catalogues; selection criteria for catalogues to be converted for national network use; availability of existing machine-readable files.

5. Implementation of a Canadian bibliographic data base

Establishment of priorities for types of material, current and retrospective records, etc.

Research and pilot projects necessary and plans for their accomplishment.

Staffing and funding for implementation.

National implementation plan and schedule.

6. Exploration of alternative methods of providing some of the services referred to above, such as the establishment of a national lending service for some categories of materials, etc.

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Mr. John RUSSELL,
St. James-Assiniboia Public Library, Winnipeg, Manitoba.

Mrs. Carla SOMERS,
Nova Scotia Provincial Library, Halifax, N.S. (1974/76)

M. Bernard VINET,
Bibliotheque de l'Universite Laval, Quebec , Quebec.

Dr. Ian WILS,
National Library of Canada, Ottawa, Ontario.

Mr. Frederick T. WHITE,
Vancouver Island Regional Library, Nanaimo, B.C.

ACTIVITIES

The Canadian Union Catalogue Task Group had its antecedents. During the past decade a number of investigators have studied and commented upon union catalogues and lists representing the holdings of Canadian libraries.

In his Resources of Canadian Academic and Research Libraries, a report of a survey carried out on behalf of the Association of Universities and Colleges of Canada in 1967, Robert B. Downs stated that "any programme of national bibliographical control must rest primarily on union catalogues, union lists, and national bibliographies."[1] He recommended that "the National Library and the National Science Library should exercise vigorous leadership in such programmes as completion of the National Union Catalogue and national union lists of serials, establishment of a national communications network among research libraries, provision of bibliographic services, and coordination of collection activities."[2]

No sooner had Dr. Downs submitted his report than the Science Council charged Dr. John Barfoot Macdonald with the task of examining the federal government's role in relation to research at Canadian universities. Inevitably, his attention was directed toward university libraries. Noting that "even if Canadian library resources were several times greater than they are, they would constitute an inadequate and uncompetitive basis for research unless they were successfully integrated into a national system,"[3] he recommended that "the Federal Government, through the National Library, adopt as a firm objective a machine-readable union catalogue."[4] He also called upon the National Library to convene a catalogue and planning development conference as a first step toward the planning of such a union catalogue.

Such a conference, described as the National Conference on Cataloguing Standards, was held in May 1970, and its recommendations led to the formation in February 1971 of the Canadian Task Group on Cataloguing Standards and in April 1971 of the MARC Task Group. However, the National Librarian had already begun to investigate the feasibility of a machine-based union catalogue through the establishment in December 1968 of an internal Systems Development Project, the members of which were Hope Clement, Louis Forget, Paul Kitchen, and R.H. Bullen. The Project's final report of over five hundred pages was filed in June 1970, made twenty-seven recommendations, and was summarized and published in a document entitled An Integrated Information System for the National Library of Canada.[5] The first and main recommendation was that "an integrated bibliographic system for the National Library be developed comprising all the operations of acquisitions, cataloguing, Canadiana, serials control, the Union Catalogue, and union lists which permit handling by electronic data processing. The integrated system will operate in a combination of batch and real-time modes." The automated union catalogue, which was touched upon in eleven other of the recommendations, was thus seen as a subsystem of a comprehensive unified system embracing all of the National Library's technical operations.

The Project's ninth recommendation pointed toward the need for a Canadian Union Catalogue Task Group, and called for "a study of the needs of the Canadian research library community for a full bibliographical data bank, the services required from it, the volumes involved, and the method of funding."

When the final report of the Canadian Task Group on Cataloguing Standards was completed in June 1972, it included among its fifty-eight recommendations several which related to the future development of union catalogues and lists. Speaking of the purposes of a national bibliographic service, the Task Group observed that such a service "must be capable of providing locations for Canadian and non-Canadian publications in a national union catalogue. This assumes the integration of entries prepared in many places and at many times into a unified whole and emphasises the requirement of not only national, but also international, standardization."[6] Out of this observation grew such recommendations as its fourth, "that the National Library undertake, with the help of representative users, redefinition of the purposes, scope, and extent of cataloguing of the Canadian materials to be included in a bibliographic data base,"[7] and its forty-fourth, that "the National Library and the National Science Library jointly establish and maintain a comprehensive machine-readable serials data base."[8]

On the fourth of October, 1972, the National Librarian of Canada, Dr. Guy Sylvestre, announced the formation of the Canadian Union Catalogue Task Group, whose main assignment would be "to study and make recommendations on the nature, scope, maintenance, and use of the Canadian Union Catalogue, which would form the bibliographic basis of a national library network, with international interfaces." The membership of the Task Group was composed of librarians, senior in both experience and responsibility, from all types of libraries and from all parts of the country.

For two principal reasons, the procedures adopted by the Task Group in dealing with its assignment differed from those employed by earlier task groups. In the first place, the dimensions and complexity of the topics covered by the terms of reference called for more time than the members of the Task Group could easily afford, and in some cases for specific kinds of expert knowledge. In the second place, the composition and size of the Task Group militated against frequent and regular meetings. Thus the Task Group chose to define a number of areas requiring detailed investigation, and to arrange for subcommittees and contract personnel to carry out studies, the findings of which could be used in developing a response as comprehensive as the terms of reference.

Over the three intervening years the Task Group, the National Librarian and his staff have been receiving reports and recommendations from the projects which the Task Group was responsible for initiating, and in fact the efforts of the National Library have already been

channelled in directions indicated by these projects. Although a final report of the Canadian Union Task Group had not been filed, the National Library was already acting upon many of the recommendations.

The first plenary session of the Task Group took place on October 19th and 20th, 1972, and it was decided then that as a preliminary task the members themselves should carry out a quick survey of union catalogues and related activities in Canada. The results of this survey were published in January 1973,[9] and revealed an abundance of planning and activity relating to union catalogues, union lists, and catalogue support services throughout the country, much of it uncoordinated, some of it involving duplication of effort. The need for a coherent national plan was immediately evident.

As agreed at the first meeting, the Task Group itself was divided into three subgroups, roughly representing large university libraries, smaller university libraries, and public libraries, and these subgroups met separately during January 11th to 13th, 1973, for the purpose of discussing major questions arising out of the terms of reference. A second plenary session was held on February 8, 1973, to review the conclusions reached by the subgroups, and this led to the formation of a Subgroup on a National Union Catalogue System (See Appendix B), and to the framing of some interim recommendations.[10] While the new Subgroup was preparing its report, the Task Group through several rounds of correspondence refined its interim recommendations. The Chairman, as a contribution to the work of the Subgroup, carried out an investigation of the use in British Libraries of computer output microform in connection with library catalogues.[11]

The interim recommendations were adopted in their final form at a plenary session on July 19th and 20th, 1973. At the same meeting it received the report of the Subgroup on a National Union Catalogue System, considered a document prepared by the Chairman in which he attempted to synthesize the views expressed by the Task Group members,[12] agreed to establish a Subgroup on Union Lists of Serials (See Appendix D), and decided to divide into four regional groups, representing the Maritime provinces, Quebec, Ontario and the Western provinces, for the purpose of discussing at separate fall meetings the nature of the regionalized union catalogue system proposed in the interim recommendations.

On November 20th, 1973, at its fourth plenary session, the Task Group approved for publication a report to accompany the interim recommendations, which had been prepared by the National Library staff from Task Group documents and correspondence, and received the National Librarian's response to the interim recommendations.[13] It also heard a progress report from Roderick Duchesne, who had been placed under contract in July to carry out a study of a Canadian national bibliographic data base (See Appendix C), and proposed that a study of interlibrary loan be carried out.

Mr. Duchesne completed his study in March 1974. For the purpose of carrying out the study on interlibrary loan the chairman of the Task Group and two of his colleagues at U.B.C. were placed under contract. They completed their work in April 1975.[14,15] In the same period, the Subgroup on Union Lists of Serials produced an interim report.

Thus by the spring of 1975 the Canadian Union Catalogue Task Group had before it its own recommendations, the recommendations of a number of subgroups and individual investigators, and a mass of supporting information. In this final report, which was approved at a final plenary session on March 29, 1976, an attempt has been made to assimilate this material and to produce an evolutionary plan for the development of a national network of Canadian libraries.

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5. National Library of Canada. Systems Development Group.
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APPENDIX B

SUBGROUP ON A NATIONAL UNION CATALOGUE SYSTEM

Terms of Reference, Membership and Recommendations

TERMS OF REFERENCE

To design a national union catalogue system which will interface with and support the work of regional bibliographic centres. To propose a strategy for the conversion of the existing union catalogue to a new national union catalogue system.

MEMBERSHIP

Mr. Neil BREARLEY,
Carleton University, Ottawa, Ontario.

Mrs. Lois BURRELL,
National Library Ottawa, Ontario.

M. Andre CHAMPAGNE,
Universite du Quebec a Montreal, Montreal, Quebec.

Mr. J. McRee ELROD,
University of B.C. Library, Vancouver, B.C.

Mrs. Alma HARVEY,
Canada Institute for Scientific and Technical Information,
Ottawa, Ontario.

Mr. Robin W. MacDONALD,
University of B.C. Library, Vancouver B.C.

Mr. Robert MORTON,
University of Western Ontario, London, Ontario.

M. Bernard VINET,
Universite Laval, Quebec, Quebec.

Mr. Gordon WRIGHT,
College Bibliocentre, Don Mills, Ontario.
(1976 - University of Toronto Library, Toronto, Ontario.)

RECOMMENDATIONS

The Subgroup recommends the following systems development for the National Union Catalogue, in three stages:

1. Location Services

(a) Close off immediately the existing Union Catalogue card file, and begin a new on-line file and system.

(b) The existing card catalogue be maintained at the National Library and used to service location requests centrally. Total conversion of this file should not be undertaken.

(c) The new on-line system provides access by standard numbering systems, title, and author.

2. Decentralization

(a) When the new system is fully operational, decentralized access be provided on-line through regional centres where these exist and/or other libraries by the production of COM indexes.

(b) Decentralized maintenance should be possible on-line or by reporting using machine-readable methods.

3. Bibliographic Support

The third stage of development recommended is extension of the scope of the Union Catalogue to provide improved access to bibliographic information in a form that can be used by libraries for catalogue generation and maintenance. This would be implemented by using a microform to provide a copy of the unit card in accession sequence and indexed by the new system on-line or COM.

NOTES ON APPENDIX B

1. National Library of Canada. Canadian Union Catalogue Task Group. Subgroup on a National Union Catalogue System. Report on recommended systems development for the national union catalogue. Ottawa, May 1973. 15p. (unpublished)

APPENDIX C

CANADIAN NATIONAL BIBLIOGRAPHIC DATA BASE STUDY

Terms of Reference, Personnel and Recommendations

TERMS OF REFERENCE

To conduct a study of the organization and content of the Canadian national data base of machine-readable bibliographic records and the means by which this may interface with other national and international data bases and machine-readable distribution services. The study will cover the use of various national MARC tape services as input to the Canadian bibliographic data base; the problems of converting other MARC formats to the Canadian MARC format; the dissemination within Canada of records received from foreign tape services to regional centres and libraries; the methods of selecting from such tape services for national distribution; the need for changes and adaptation of foreign records for compatibility with the Canadian format and data base; as well as the organization and accessing of the data base.

PERSONNEL

Mr. Roderick DUCHESNE (Project Director),
British Library, London, England.
(1976 - National Library of Canada, Ottawa, Ontario.)

Ms. Sharon CHAPPLE,
National Library of Canada, Ottawa, Ontario.

Mr. J. CURRIE,
Digital Methods Ltd., Ottawa, Ontario.

Mr. Bevett ELDRED,
Digital Methods Ltd., Ottawa, Ontario.

Mr. Ralph HARRISON,
Independent Consultant, Ottawa, Ontario.

Mr. Gerard IPPERSIEL,
National Library of Canada, Ottawa, Ontario.

Mr. William NEWMAN,
National Library of Canada, Ottawa, Ontario.

Mr. Richard SMITH,
National Library of Canada, Ottawa, Ontario.

Ms. P. ZUEST,
Digital Methods Ltd., Ottawa, Ontario.

RECOMMENDATIONS

The Library and Information Retrieval Centre

1. Planning for the Library and Information Retrieval Centre should be finalized as soon as possible. Speedy determination of the host computer system to be employed by the National Library is a matter of priority for National Library planning purposes.

2. Liaison between the future participants in the Centre should be strengthened to assist planning, to ensure system compatibility and to help the sharing of information and experience. Liaison concerning software development is of particular importance. The various participants in the Centre may commit themselves to different operating systems, communication monitor and data base management software, hindering future operation on a common facility and hindering future integration of files and systems. While a single set of software may not meet all the needs of each participant, liaison should assist agreement on at least a common operating system and communication monitor software and on preferred programming languages.

The Canadian National Bibliographic EDP Network

3. The National Library, in co-operation with other libraries across Canada, should work out a plan for Canadian National bibliographic EDP network development. This plan should be phased and should show for each phase the extent of the network, including:

- details of participating organizations
- location and nature of hardware employed
- location and nature of files accessible to the network
- communications facilities
- services and facilities offered by each participating organization

National Library Data Base Strategy

4. Given adequate and economic host computer hardware availability the National Library should plan to use an integrated on-line data base containing CANDC, MARC and National Library acquisitions and in-process files. All useful data fields may be included in the on-line file, and this file can serve both accession reporting and National Library cataloguing purposes with additional data being added into the files as required in respect of a given bibliographic item.

National Library software development

5. The National Library should specify in more detail the data base structure required for its purposes and should carry the study of data base management software packages to the benchmark testing stage. Data base management software, such as CDS/ISIS, presently used or being developed by other Library and Information Retrieval Centre participants should be studied before final selection of software for benchmark testing.

6. Following testing and selection of data base management software, similar detailed analysis including benchmark tests should be performed in respect of communications monitor packages.

7. Following these stages - and given adequate and economic host computer system availability - the National Library should proceed to implement an integrated data base employing the defined structures and chosen data base management and communications monitor software.

NOTES ON APPENDIX C

The following documents were produced by the Canadian National Bibliographic Data Base Study:

Buchanan, Roderick D.
Canadian national bibliographic data base study. The report. Ottawa, National Library of Canada, 1974. xviii, 59p.

Bureau, Pierre L., and Daly, Richard G.
Software and file organization sub-study. Ottawa, National Library of Canada, 1974. iii,49p. (Annex B)

Gibson, Dennis D.
Model outline of a Canadian union catalogue EDP system. Ottawa, Digital Methods Ltd., 1974. ix, 74p. (Annex D).

Harrison, Helga D.
Canadian on-line cataloguing service model. Ottawa, National Library of Canada, 1974. iii, 77 p. (Annex C)

Maggio, Sharon D.
Patterns of use in Canada of Canadian MARC, Canadian MARC and USMARC records. Ottawa, National Library of Canada, 1974. 28 p. (Annex D).

Buchanan, Roderick D. and Ignoroski, Gerard D.
Projected availability of MARC and USMARC records of prime interest to Canada. Ottawa, National Library of Canada, 1974. 28 p. (Annex B).

Buchanan, Roderick D. and Ignoroski, Gerard D.
Canadian national union catalogue: projected volumes of accession reports, titles reported and location reports, 1976-1978. Ottawa, National Library of Canada, 1974. 12 p. (Annex F).

Buchanan, Roderick D., and Ignoroski, Gerard D.
Comparison of MARC monographic formats: Canadian, U.K., U.S. and INTERMARC. Ottawa, National Library of Canada, 1974. 52 p. (Annex G).

Buchanan, Roderick D.
Preface and leader: place for the development of national bibliographic EDP records. Ottawa, National Library of Canada, 1974. 26 p. (Annex H).

[redacted]

MEMBERSHIP

Ms. Cynthia DURANCE, (Chairperson),
University of Waterloo Library, Waterloo, Ontario.
(1976 - National Library of Canada, Ottawa, Ontario.)

Mr. Richard ANABLE,
York University Library, Downsview, Ontario.
(1976 - Council on Library Resources, Washington, D.C.)

Mrs. Isabel BRADLEY,
National Library of Canada, Ottawa, Ontario.

Mr. Edwin BUCHINSKI,
National Library of Canada, Ottawa, Ontario.

Mr. Barrie BURNS,
University of Saskatchewan Library, Saskatoon, Saskatchewan.

Ms. Bonnie CAMPBELL.
Toronto Metropolitan Central Library, Toronto, Ontario.

Mrs. Alma HARVEY,
Canada Institute for Scientific and Technical Information,
Ottawa, Ontario.

Mr. Riaz HUSSAIN,
Nova Scotia Technical College, Halifax, N.S.

Mr. Trent REID,
National Library of Canada, Ottawa, Ontario.

Mr. Rosario DE VARENNES,
La Bibliotheque, Universite Laval, Quebec, Quebec.

Miss Jean GRIFFIN,
University of Victoria Library, Victoria, B.C.

RECOMMENDATIONS

1. The scope of the Canadian Union Serials Data Base eventually be all serials as defined in recommendation 2 (below) which are held by Canadian libraries, and all serials published in Canada.

2. The ISDS definition of a serial be accepted, that is, a serial is

> "A publication in print or non-print form, issued in successive parts, usually having numerical or chronological designations, and intended to be continued indefinitely. Serials include periodicals, newspapers, annuals, (reports, yearbooks, directories, etc.), journals, memoirs, proceedings, transactions, etc. of societies, and monograph series.

3. A national union serials data base include:

- proceedings of meetings, conferences, congresses, and so forth, which are held regularly and frequently and are intended to continue indefinitely. These would generally be the proceedings of regular meetings of an organization.

- serially published government documents and governmental and non-governmental technical reports.

- pseudo-serials.

- monograph serials.

- monograph series which regularly bear a numerical and/or chronological designation including scholarly publishers' series.

- unnumbered monograph series if published in Canada, or if in certain selected cases it is considered useful to record a series approach.

- serially published looseleaf services.

- house organs and local interest serials considered worth collecting and preserving.

- newspapers.

4. A national union serials data base exclude:

- books in part

- most publishers' series except scholarly numbered publishers' series

- proceedings of conferences, congresses, and so forth, which are not held regularly and frequently and/or which are not intended to continue indefinitely.

- house organs of only ephemeral interest.

5. Holdings for numbered monograph series be reported in the union serials data base by appropriate sequential designations, and that individual items in the series, if catalogued separately, also be reported to the monographs data base by author/title; the entries in the two data bases would be linked by the ISSN.

6. ISDS/Canada adopt the definition of a serial as defined in recommendations 2 to 4 (above) for the purpose of assigning ISSN's and for reporting to the ISDS/IC.

7. Key titles and ISSN's be assigned to Canadian unnumbered monograph and publishers' series in order to facilitate linking between serial and monograph data bases.

8. All Canadian publications which are registered by ISDS/Canada be included in the Canadian union serials data base.

9. An additional type of serial designator be assigned to the MARC serials format for newspapers other than general news coverage publications. This category to include financial, labour, ethnic, student,and underground newspapers which are published on newsprint in a format of not less than four columns of type per page, and are issued at least once a month, and without a cover.

10. The proper authorities be encouraged to include a field for the ISSN in non-conventional government documents schemes and the COSATI formats as a minimum data element in order to facilitate linking of serials between data bases.

11. ISSN be added to all other MARC formats, in order that inter-locking and coordination be possible for all materials that have a serial approach.

12. The MARC format "type of serial designator" code for monograph series should also be used for technical reports.

13. ISSNs and key title be assigned to Canadian serials according to the following priority:

1) Canadian serials beginning publication after January 1974.

2) All Canadian serials included in the Bowker serials bibliographies and <u>New Serial Titles</u> 1950-1970 cumulation (ISSNs have been assigned to these serials, but need to be

reviewed, and key titles assigned. Current serials covered by abstracting and indexing services should be given priority.).

3) All Canadian Serials in the CONSER data base.

4) All serials in Canadian data bases which are in MARC format.

5) All other current serials.

6) Other retrospective serials.

7) Unnumbered monograph series and publishers' series.

14. The National Librarian seek funds and man-years necessary for ISDS/Canada to implement this assignment as quickly as possible.

15. ISDS/Canada issue guidelines to the Canadian library community on sources of information for valid ISSNs and usage of these numbers.

16. All Canadian libraries which have automated serials data bases be urged to input registered ISSNs and key titles as they become available.

17. ISDS/Canada review its policy for assigning ISSNs with respect to the Subgroup recommendations on definitions of a serial, guidelines for inclusion, and priorities for assignment.

18. Initially serials data collection be concentrated on a minimum subset of data elements which are essential for the exchange of bibliographic and holdings information. The records could later go through a process of enrichment until they comprise full bibliographic data according to developed standards.

19. A union data base strive to be compatible, at least to a minimum subset level, with union list standards developed in other countries, particularly the United States, to enable the cooperative development and/or exchange of bibliographic data.

20. The ISO/2709 standard be adopted for the record structure of serials data bases in Canada so that such systems can receive and transmit data in a standard communication format.

21. For a union serials data base the bibliographic record be a composite record containing:

a. The ISDS key title and the ISSN.

b. The proposed title.

c. The AACR corporate author/title.

and that the record be able to accommodate commonly used variants of the above-mentioned standards.

22. The Canadian Committee on Cataloguing consider the revision of the AACR rules for cataloguing serials a matter of greatest urgency.

23. The Canadian Committee on Cataloguing urge the incorporation in the proposed revision of the AACR of the ISBD(S), the recognition of the ISDS key title as the benchmark for a serial record and of the title as the main entry to a serial bibliographic record.

24. The Canadian Committee on Cataloguing consider the implications for machine-readable data bases when constucting a revised AACR.

25. The Canadian MARC Communication Format: Mini-MARC format for serials holdings statements be adopted for standardized reporting and exchanging of holdings information in machine-readable files.

26. The appropriate Canadian and United States authorities be urged to improve and expand library location codes in order to meet the range of needs of all sizes of organizations, from individual libraries to national centres for reporting and requesting serials holdings in a machine environment.

27. The bilingual name and subject authority files created by the National Library be made available in both printed and machine-readable form to libraries.

28. The capability of access to the Canadian union serials data base by both broad subject code and by specific subject heading be considered.

29. Until the CONSER Project is under way, the National Library of Canada be the only Canadian participant.

30. After the Project is established the Canada Institute for Scientific and Technical Information become a participant.

31. At an appropriate stage in the CONSER Project, the National Library contract with certain large Canadian libraries to participate in this project through the National Library.

32. Canadian CONSER Project participants be selected on the basis of their serials collection, the excellence of their bibliographic records, and their geographic location.

33. The National Library and the Canada Institute for Scientific and Technical Information jointly develop a maintenance and updating facility for a union serials data base using the CONSER file as the base file; and that they jointly develop a mechanism for Canadian libraries to report data and holdings to this data base in machine-readable or printed form.

34. The Canadian MARC Communication Format: Mini-MARC be adopted as the minimum exchange level for machine-readable records for serials in Canada, but that the fullest Canadian MARC serials coding be provided whenever possible.

35. All libraries with machine-readable serials files be urged to adopt an internal format which is convertable to the Canadian MARC Communication Format: Mini-MARC.

36. The National Librarian consider the creation of a Canadian Advisory Committee on Serials to advise the national libraries and the Canadian library community on matters pertaining to serials and serial data bases.

NOTES ON APPENDIX D

The Subgroup on Union Lists of Serials produced the following documents:

National Library of Canada. Canadian Union Catalogue Task Group. Subgroup on Union Lists of Serials. Interim Report. Ottawa, National Library of Canada, March 1974. 55p.

National Library of Canada. Canadian Union Catalogue Task Group. Subgroup on Union Lists of Serials. Report. Ottawa, National Library of Canada, 1976. 55 p.

APPENDIX E.

INTERLIBRARY LOAN STUDY

Terms of Reference, Membership and Recommendations

TERMS OF REFERENCE

To obtain information relevant to the development of a national information network and to make recommendations concerning such elements of a network as interlibrary loan procedures, communications and delivery systems, and national lending collections.

MEMBERSHIP

Mr. Basil Stuart-Stubbs,
University of British Columbia Library, Vancouver, B.C.

Ms. Margaret Friesen,
University of British Columbia Library, Vancouver, B.C.

Mrs. Kathleen Nichol,
University of British Columbia Library, Vancouver, B.C.

Mr. Douglas McInnes,
University of British Columbia Library, Vancouver, B.C.

RECOMMENDATIONS

1. That the federal government, through the Canada Council, the National Library, or some other agency capable of making direct grants to or negotiating contracts with individual libraries, reimburse net lending libraries, other than national, provincial and government libraries, such reimbursement to be in terms of the difference between items loaned to and items borrowed from Canadian libraries (providing this difference exceeds 99 loans), multiplied by the average cost of lending an item, as determined by a standard annual survey of these costs at the net lending libraries.

2. That the national libraries develop a resource for periodical literature, and systems for the expeditious delivery of items from that resource.

3. That the National Library serve as coordinator of the development of a national system of national, provincial, and regional union catalogues, through the provision of standards, cataloguing data, and other suitable forms of support.

4. That the Canadian Library Association and the Association pour l'avancement des sciences et des techniques de la documentation work together on a new edition of an interlibrary loan code for Canadian libraries, to be founded on present practice and future possibilities.

NOTES ON APPENDIX E

The following documents were produced by the Interlibrary Loan Study:

Stuart-Stubbs, Basil; Nichol,K.; Friesen, M.; and McInnes, D. A survey and interpretation of the literature of interlibrary loan. Ottawa, National Library of Canada, 1976. 158 p. microfiche.

Stuart-Stubbs, Basil; Friesen, Margaret; and McInnes, Douglas. Interlibrary loan in Canada. A report of a survey. Ottawa, National Library of Canada, 1976. 236 p. microfiche.